

**BIG BEAR AREA REGIONAL WASTEWATER AGENCY  
NOTICE OF BUDGET WORKSHOP  
AND SPECIAL MEETING  
March 7, 2018**

A Budget Workshop and Special Meeting of the Governing Board of the Big Bear Area Regional Wastewater will be held on Wednesday, March 7, 2018 at 10:00 p.m. at 121 Palomino Drive, Big Bear City, California 92314.

1. **Call to Order**
2. **Pledge of Allegiance**
3. **Budget Workshop (Est. 10:00 a.m. – 2:00p.m.)**
  - A. FY 2019 Draft Budget (under separate cover)
4. **Approval of Agenda**
5. **Consent Calendar**– All matters listed on the Consent Calendar will be enacted by one motion at the appropriate time. There will be no separate discussion of these items. If detailed discussion is necessary, any Board Member may request that an item be removed from the Consent Calendar and considered separately.
  - A. Minutes of January 24, 2018 Regular Board Meeting - Approve
  - B. Second Quarter Report, Six Months Ended December 31, 2017 – Informational
  - C. Board Member Reimbursement – Approve
6. **Items Removed from Consent**
7. **Public Forum Response** – None
8. **Public Forum** – The Public Forum portion of the meeting is an opportunity for members of the public to directly address the Governing Board on matters within the jurisdiction of this Agency and included on the agenda. Ordinance No. 57 limits individual public testimony to three minutes or less. The cumulative time that any individual may provide public testimony during a meeting is fifteen minutes and the public testimony shall be limited to thirty minutes for all speakers. Whenever a group of persons wishes to address the Board on the same item, the Chairman or the Board by majority vote may request a spokesperson be chosen for the group or limit the number of such persons addressing the Board. Since discussion of an item, not on the posted agenda is not allowed, these concerns will be addressed in a future meeting as soon as practicable under “Public Forum Responses.

**9. Old Business – None**

**10. New Business**

- A. Bear Valley Water Sustainability Project Outreach Efforts – Discussion and Possible Action
- B. New Belt Press – Discussion and Possible Action
- C. Emergency Generator Repairs – Discussion and Possible Action
- D. 2018 Rate and Fee Study – Discussion and Possible Action
- E. Amendment to Joint Exercise of Power Agreement (the JPA) – Discussion and Possible Action

**11. Information/Committee Reports**

- A. Finance Committee Meeting – Update

**12. Adjournment**

In compliance with the Americans with Disabilities Act and Government Code Section 54954.2, if you need special assistance to participate in an Agency meeting or other services offered by the Agency, please contact Kimberly Booth, Administrative Assistant at (909) 584-4018. Notification at least 48 hours prior to the meeting or time when services are needed will assist the Agency staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.

Copies of staff reports or other written documentation relating to each item of business referred to on this agenda are on file in the office of the Big Bear Area Regional Wastewater Agency and are available for public inspection during normal business hours.

Visit [www.bbarwa.org](http://www.bbarwa.org) to view and/or print the Agenda Package

**BIG BEAR AREA REGIONAL WASTEWATER AGENCY**  
**Regular Board Meeting**  
**Minutes**  
**January 24, 2018**

**1. Call to Order**

A regular meeting of the Governing Board of the Big Bear Area Regional Wastewater Agency was held on Wednesday January 24, 2018 at 5:00 p.m. at 121 Palomino Drive, Big Bear City, California.

**Governing Board Members present:** Rick Herrick, David Caretto, Liz Harris, John Green and Karyn Oxandaboure.

**Absent:** None

**Staff present:** David Lawrence, General Manager; Jennifer McCullar, Finance Manager; Troy Bemisdarfer, Interim Plant Manager; and Kim Booth, Administrative Assistant

**Others:** Shawn Coorn, HDR

**2. Pledge of Allegiance**

Chairman Herrick called the meeting to order at 5:00 p.m. with Ms. Oxandaboure leading the Pledge of Allegiance.

**3. Presentations and Introduction:**

A. Mr. Herrick presented Ms. Oxandaboure with her one-year pin and thanked her for her service on the board.

B. Mr. Lawrence introduced Mr. Coorn where he then presented the preliminary rate study.

**4. Approval of the Agenda**

Upon motion by Director Caretto, seconded by Director Green and carried, the Agenda was approved as presented.

**Vote**

Herrick	Aye
Oxandaboure	Aye
Harris	Aye
Caretto	Aye
Green	Aye

**5. Consent Calendar:** The Governing Board reviewed items on the Consent Calendar. Upon motion by Secretary Harris, seconded by Director Caretto and carried, the Governing Board approved the Consent Calendar as presented:

A. Minutes of Special Meeting on December 7, 2017 Special Meeting – Approve

B. Monthly Expenses – Informational

C. Governing Board Member Reimbursement – Approve

D. Investment Report – Informational

- E. Operations and Connections Report for January 2018 – Informational
- F. Resolution No. R. 01-2018, Governing Board Members’ and Volunteers’ Coverage Under Worker’s Compensation Insurance – Approve
- G. Appropriate \$20,000 for Emergency Generator Rental – Removed

**Vote**

Herrick	Aye
Oxandaboure	Aye
Harris	Aye
Caretto	Aye
Green	Aye

**6. Items Removed From the Consent Calendar:**

Secretary Harris asked why we have needed to rent a generator for so long. Mr. Lawrence explained after the September meeting a generator was ordered but it will not arrive until April. In the mean time we need to have a backup generator at all times. Upon motion by Secretary Harris, seconded by Director Caretto and carried, the governing board approved 5.G as presented.

**7. Public Forum Response:**

- 8. Public Forum** – The Public Forum portion of the meeting is an opportunity for members of the public to directly address the Governing Board on matters within the jurisdiction of this Agency. Ordinance No. 57 limits individual public testimony to three minutes or less. The cumulative time that any individual may provide public testimony during a meeting is fifteen minutes and the public testimony shall be limited to thirty minutes for all speakers. Whenever a group of persons wishes to address the Board on the same item, the Chairman or the Board by majority vote may request a spokesperson be chosen for the group or limit the number of such persons addressing the Board. Since discussion of an item, not on the posted agenda is not allowed, these concerns may be addressed in a future meeting under “Public Forum Response

**9. Old Business: None**

**10. New Business**

- A. Mr. Lawrence gave background on the purchasing policy and that it has already been presented to the finance committee. Upon motion by Vice Chairman Oxandaboure, seconded by Director Green and carried the governing board approved the purchasing policy as presented.

**Vote**

Herrick	Aye
Oxandaboure	Aye
Harris	Aye
Caretto	Aye

Green                      Aye

- B. Mr. Lawrence gave some background on the August 23, 2017 board meeting the board approved to sign a contract with BB&K advocacy services to support the Agency in re-authorizing \$15 million from the Water Resources Reform and Development Act 2007. Mr. Lawrence would like the board to approve to extend the contract with BB&K until March 2018 and appropriate \$21,000 for advocacy services. Upon motion by Director Caretto, seconded by Director Green and carried the governing board approved to extend the contract with BB&K for advocacy services and appropriating \$21,000 from the contingency fund.

**Vote**

Herrick	Aye
Oxandaboure	Aye
Harris	Aye
Caretto	Aye
Green	Aye

- C. Mr. Lawrence asked the board what their schedule looks like to plan the February budget workshop along with rescheduling the March board meeting. The board scheduled the budget workshop for February 28, 2018 from 10:00 a.m. – 2:00 p.m. The regular scheduled board meeting on the March 28<sup>th</sup> will be adjourned to a special meeting on Thursday, March 22, 2018 at 5:00 p.m.

**Vote**

Herrick	Aye
Oxandaboure	Aye
Harris	Aye
Caretto	Aye
Green	Aye

**11. Information/Committee Reports**

- A. Chairman Herrick gave an update on the finance committee meeting, reviewing the purchasing policy and recommended the board to approve.

**12. Adjournment**

With no further business to come before the Governing Board, Chairman Herrick adjourned the meeting at 5:34 p.m.

ATTEST: \_\_\_\_\_  
Elizabeth Harris, Ed.D, Secretary of the  
Governing Board of the Big Bear Area Regional  
Wastewater Agency

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Kim Booth, Administrative Assistant  
Big Bear Area Regional Wastewater Agency



Big Bear Area Regional  
Wastewater Agency  
*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

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**AGENDA ITEM: 5.B**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager *DL*

**PREPARED BY:** Jennifer McCullar, Finance Manager *JM*

**SUBJECT:** Second Quarter Report, Six Months Ended December 31, 2017

**BACKGROUND:**

Please find attached the 2nd Quarter Report which discusses the most recent quarter's financial performance compared to the budget.

Overall, the Agency performed under the budget for the first six months with operating expenses below the budget by approximately \$98,200 or 5%.

**FINANCIAL IMPACT:**

No financial impact.

**RECOMMENDATION:**

Informational

Big Bear Area Regional Wastewater Agency

# 2nd Quarter Report

Six Months ended December 31, 2017





**STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

	Q1 9/30/17 <u>Actual</u>	Q2 12/31/17 <u>Actual</u>	YTD <u>Actual</u>	YTD <u>Budget</u>	YTD Actual vs Budget \$	YTD Actual vs Budget %
<b>Operating revenues:</b>						
Annual charges	0	2,545,788	2,545,788	2,545,788	(0)	0%
Waste disposal fees	6,134	5,407	11,541	10,896	645	6%
Rental income	8,734	8,699	17,432	17,339	93	1%
Standby fees	0	42,590	42,590	42,590	0	0%
Other operating revenue	<u>0</u>	<u>1,644</u>	<u>1,644</u>	<u>0</u>	1,644	nm (b)
Total operating revenues	14,868	2,604,127	2,618,995	2,616,613	2,382	0%
<b>Operating expenses:</b>						
Salaries and benefits	460,313	523,812	984,125	1,013,591	(29,467)	-3%
Power	86,237	92,787	179,024	228,363	(49,339)	-22%
Sludge removal	103,718	99,420	203,138	151,352	51,786	34%
Chemicals	6,497	10,824	17,321	21,683	(4,362)	-20%
Materials and supplies	18,148	45,724	63,871	74,234	(10,363)	-14%
Repairs and replacements	13,180	40,920	54,100	79,750	(25,651)	-32%
Equipment rental	12,337	14,333	26,671	20,389	6,282	31%
Utilities expense	3,195	12,336	15,530	8,890	6,640	75%
Communications expense	6,906	9,168	16,073	27,688	(11,615)	-42%
Contractual services - other	12,839	15,161	28,000	38,481	(10,481)	-27%
Contractual services - prof	28,758	88,872	117,630	121,128	(3,498)	-3%
Permits and fees	10,728	131,170	141,898	148,093	(6,195)	-4%
Property tax expense	0	3,599	3,599	3,572	27	1%
Insurance expense	99,325	0	99,325	93,306	6,019	6%
Other operating expense	10,420	13,580	24,001	41,957	(17,956)	-43%
Depreciation expense (a)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	nm (b)
Total operating expenses	872,600	1,101,705	1,974,305	2,072,477	(98,172)	-5%
<b>Operating Income</b>	<b>(857,732)</b>	<b>1,502,422</b>	<b>644,690</b>	<b>544,136</b>	<b>100,554</b>	<b>18%</b>
<b>Nonoperating income (expense):</b>						
Nonoperating income	6,742	15,579	22,321	18,946	3,375	18%
Nonoperating expense	<u>0</u>	<u>(39,887)</u>	<u>(39,887)</u>	<u>(39,887)</u>	<u>0</u>	nm (b)
Total nonoperating income (exp)	6,742	(24,308)	(17,565)	(20,941)	3,376	-16%
<b>Income before capital contribution</b>	<b>(850,990)</b>	<b>1,478,114</b>	<b>627,125</b>	<b>523,195</b>	<b>103,930</b>	<b>20%</b>
<b>Capital contrib - conn fees</b>	<b><u>58,720</u></b>	<b><u>77,070</u></b>	<b><u>135,790</u></b>	<b><u>106,430</u></b>	<b><u>29,360</u></b>	<b><u>28%</u></b>
<b>Change in Net Position</b>	<b>(792,270)</b>	<b>1,555,184</b>	<b>762,915</b>	<b>629,625</b>	<b>133,290</b>	<b>21%</b>

(a) Currently, the Agency depreciates its assets at the end of the year. Therefore, depreciation expense is presented as \$0.00 on an interim basis

(b) nm = not meaningful and is the result when dividing by 0.



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**STATEMENT OF CASH FLOW****Q2**  
**12/31/2017****Cash flows from operating activities:**

Cash received from customers and other sources	2,643,720
Cash payments to suppliers for goods and services	-1,074,185
Cash payments to employees	<u>-979,070</u>
Net cash provided by operating activities	<u>590,465</u>

**Cash flows from noncapital financing activities:**

Payment of pension related debt/liability	0
Change in Deferred Inflows	0
Change in Deferred Outflows	0
Change in NPL	<u>0</u>
Net cash used for noncapital financing activities	0

**Cash flows from capital and related financing activities**

Purchases of property, plant and equipment	-585,915
Sale, Disposal of property, plant and equipment	0
Capital contributions	183,500
Proceeds from debt issuance	0
Prepayment premiums and issuance costs	0
Principal payments on long-term debt	-234,860
Interest paid on long-term debt	<u>-53,182</u>
Net cash used for capital and related financing activities	<u>-690,456</u>

**Cash flows from investing activities:**

Investment income received	<u>36,692</u>
Net cash provided by investing activities	<u>36,692</u>

Net change in cash equivalents -63,299

Cash equivalents, beginning of period	6,933,280
Cash equivalents, end of period	<u>6,869,982</u>
Change during the period	<u>-63,299</u>

**CASH AND FUND BALANCES**

	<b>Q2</b>
	<b><u>12/31/2017</u></b>
<b>BEGINNING BALANCE:</b>	
Cash Balance	6,933,280
Designated Fund Balances:	
Capital and Replacement Fund	
Current Year	1,691,761
Future Year	<u>1,572,154</u>
Total C&R	3,263,915
Debt Service Fund	576,084
Liquidity Fund	1,942,031
Contingency Fund:	
Emergency	500,000
Operating	<u>651,251</u>
Total Contingency	<u>1,151,251</u>
Total Beginning Designated Fund Balances	<u>6,933,280</u>
Restricted Funds:	
Connection Fees	0
<b>ACTIVITY DURING PERIOD:</b>	
Designated Fund Balances:	
Capital and Replacement Fund	
Current Year	-585,915
Future Year	0
Debt Service Fund	-288,042
Liquidity Fund	627,158
Contingency Fund:	
Emergency Fund	0
Operating	<u>0</u>
Total	0
Restricted Funds:	
Connection Fees	<u>183,500</u>
Total Activity During the Period	<u>-63,299</u>
<b>ENDING BALANCE:</b>	
Cash Balance	6,869,982
Designated Fund Balances:	
Capital and Replacement Fund	
Current Year	1,105,846
Future Year	<u>1,572,154</u>
Total C&R	2,678,000
Debt Service Fund	288,042
Liquidity Fund	2,569,188
Contingency Fund:	
Emergency	500,000
Operating	<u>651,251</u>
Total	1,151,251
Restricted Funds:	
Connection Fees	183,500
Total Ending Designated & Restricted Funds	6,869,982



## Discussion and Analysis

### Operating Revenues

Operating revenues were slightly ahead of the budget by \$2,382 (less than 1%) due to higher other income and waste disposal fees. Other income was related to proceeds from metal recycling.

	Q1 9/30/2017 Actual	Q2 12/31/2017 Actual	YTD Actual	YTD Budget	YTD Actual vs Budget \$	YTD Actual vs Budget %
<b>Operating revenues:</b>						
Annual charges	\$0	\$2,545,788	\$2,545,788	\$2,545,788	\$0	0%
Waste disposal fees	6,134	5,407	11,541	10,896	\$645	6%
Rental income	8,734	8,699	17,432	17,339	\$93	1%
Standby fees	0	42,590	42,590	42,590	\$0	0%
Other operating revenue	<u>0</u>	<u>1,644</u>	<u>1,644</u>	<u>0</u>	<u>\$1,644</u>	<u>nm</u>
Total operating revenues	\$14,868	\$2,604,127	\$2,618,995	\$2,616,613	\$2,382	0%

### Operating Expenses

Operating expenses were below the budget by approximately \$98,172 or 5% largely due lower salaries and benefits, power costs and timing. The largest contributors to the variance are highlighted below.

	9/30/2017 Actual	12/31/2017 Actual	YTD Actual	YTD Budget	vs Budget \$	vs Budget %
<b>Operating expenses:</b>						
Salaries and benefits	460,313	523,812	984,125	1,013,591	(29,467)	-3%
Power	86,237	92,787	179,024	228,363	(49,339)	-22%
Sludge Removal	103,718	99,420	203,138	151,352	51,786	34%
Chemicals	6,497	10,824	17,321	21,683	(4,362)	-20%
Materials and supplies	18,148	45,724	63,871	74,234	(10,363)	-14%
Repairs and Replacements	13,180	40,920	54,100	79,750	(25,651)	-32%
Equipment rental	12,337	14,333	26,671	20,389	6,282	31%
Utilities expense	3,195	12,336	15,530	8,890	6,640	75%
Communications expense	6,906	9,168	16,073	27,688	(11,615)	-42%
Contractual services - other	12,839	15,161	28,000	38,481	(10,481)	-27%
Contractual services - prof	28,758	88,872	117,630	121,128	(3,498)	-3%
Permits and fees	10,728	131,170	141,898	148,093	(6,195)	-4%
Property tax expense	0	3,599	3,599	3,572	27	1%
Insurance expense	99,325	0	99,325	93,306	6,019	6%
Other operating expense	10,420	13,580	24,001	41,957	(17,956)	-43%
Depreciation expense	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>nm</u>
Total operating expenses	872,600	1,101,705	1,974,305	2,072,477	(98,172)	-5%



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An explanation of the major variances by line item is as follows.

**Salaries and benefits** expense was under the budget by \$29,467 or 3% and is primarily due to staffing changes. The Agency had two operator positions vacant for the first quarter which resulted in lower salaries and wages and lower medical premium and pension expense.

**Power** expense was under the budget by \$49,339 or 22%. The variance was mostly due to lower transportation costs associated with natural gas and to a lesser extent, low flows.

**Materials and Supplies** expense was under the budget by \$10,363 or 14% due lower fuel expense associated with not operating the bin truck for sludge removal, lower ground maintenance requirements due to a lack of winter weather, and timing associated with purchasing a mounting plow.

**Repairs and Replacements** expense was under the budget by \$25,651 or 32% and was largely due to timing associated with raising and sealing manholes, a pump rebuild and the purchase of belts, offset by higher generator repairs during the period.

**Communications** expense was under the budget by \$11,615 or 42% and reflects a decision not to in execute a service contract with TESCO, the Agency's service provider related to the SCADA system. The Agency is currently re-evaluating its SCADA system and related service providers.

**Other Operating** expense was under the budget by \$17,956 or 43% and is driven by lower education and training costs. The variance is due in part to timing and lower attendance at conferences during then budgeted.

Line items that increased and should be noted are increases in 1) sludge removal of \$51,786 or 34%, 2) equipment rental of \$6,282 or 31% and 3) utilities expense of \$6,640 or 75%. Higher sludge removal expense was due to higher sludge tons removed from the plant than budgeted. The Agency removed approximately 2,100 tons compared to approximately 1,700 tons remove for the period. The increase in sludge removed is due to 1) higher BOD which averaged 325 compared to 283 in the budget, lower effectiveness of the covered drying bed, and running the plant lighter (less solids in the system). With the ponds out of service, the Agency wasted at higher levels than it otherwise would have. The Agency also experienced higher transportation costs during the period which contributed to a higher disposal cost approximately \$98/ton compared to \$89/ton budgeted.

Equipment rental was higher than the budget due to emergency generator rental at Station 3. Higher utilities expense was related to putting the administration building on local (BVE) power instead of using generated power from the plant. During periods of high electrical usage and thus generator demand, the Agency may need to switch the administration building to local power to manage the high load impact on the generators.



**Non-Operating Income (Expense)**

Non-operating income was higher than budget as a result of an accounting adjustment for the Agency's LAIF investment.

	Q1 9/30/17	Q2 12/31/17	YTD Actual	YTD Budget	YTD Actual vs Budget \$	YTD Actual vs Budget %
Nonoperating income (expense):	Actual	Actual	Actual	Budget		
Nonoperating income	6,742	15,579	22,321	18,946	3,375	18%
Nonoperating expense	0	-39,887	-39,887	-39,887	0	0%
Total nonoperating income (exp)	6,742	-24,308	-17,566	-20,941	3,375	-16%

**Capital Contributions - Connection Fees**

Income before capital contributions was ahead of plan by \$103,289 or 20% for the period, primarily due to lower operating expenses than budgeted of \$98,172. Connection fees were higher than budget due to first half connections of 37 compared to 29 in the budget.

	Q1 9/30/2017	Q2 12/31/2017	YTD Actual	YTD Budget	YTD Actual vs Budget \$	YTD Actual vs Budget %
Income before capital contributions	-850,990	1,478,114	627,124	523,195	103,929	20%
Capital contrib - conn fees	58,720	77,070	135,790	106,430	29,360	28%
Net Income, Change in net assets	-792,270	1,555,184	762,914	629,625	133,289	21%

**Capital Expenditures (CAPEX)**

CAPEX for the period was \$585,915 and was \$315,613 under the budget largely due to the timing associated with the completion of the Cummins generator rebuild, the Groundwater Quality Evaluation Study in Lucerne Valley, asphalt paving, and the purchase of a rolling generator and other equipment.

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**Cash Flow and Fund Balances**

The Agency experienced negative cash flow of approximately \$63,000 in the first half of FY 2018. The negative cash flow primarily reflects cash flow from operations of approximately \$591,000, connection fee revenue of \$183,500, and interest income of approximately \$37,000 offset by capital expenditures of approximately \$586,000 and debt service of \$288,000.

	<b>Beginning Balance</b>	<b>Activity During Period</b>	<b>Ending Balance</b>
<b>Cash Balance</b>	6,933,280		6,869,982
<b>Designated Fund Balances:</b>			
Capital and Replacement Fund			
Current Year	1,691,761	-585,915	1,105,846
Future Year	<u>1,572,154</u>	<u>0</u>	<u>1,572,154</u>
Total C&R	3,263,915	-585,915	2,678,000
Debt Service Fund	576,084	-288,042	288,042
Liquidity Fund	1,942,031	627,158	2,569,188
Contingency Fund:			
Emergency	500,000	0	500,000
Operating	<u>651,251</u>	<u>0</u>	<u>651,251</u>
Total	1,151,251	0	1,151,251
<b>Restricted Funds:</b>			
Connection Fees	0	183,500	183,500
<b>Total Designated &amp; Restricted Funds</b>	6,933,280	-63,299	6,869,982



Big Bear Area Regional  
Wastewater Agency

*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

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**AGENDA ITEM: 5.C**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager *DL*

**PREPARED BY:** Jennifer McCullar, Finance Manager *JM*

**SUBJECT:** Board Member Reimbursement

**BACKGROUND:**

Attached are the January 2018 meeting records for each Governing Board Member and represent eligible compensation at a rate of \$150 per regular or special meeting pursuant to the Agency's Administrative and Personnel Policy, Board Member Reimbursement.

**FINANCIAL IMPACT:**

No financial impact. Funds previously appropriated.

**RECOMMENDATION:**

Approve



**BIG BEAR AREA REGIONAL WASTEWATER AGENCY**

**REPORT OF MEETINGS ATTENDED**

Governing Board Member: Karyn Oxandabere

Date Submitted: January 24, 2018

Month Covered: January

BBARWA Regular Meeting Attended: \_\_\_\_\_ Date: 1-24-17 Compensation \$ 150<sup>00</sup>

**PURPOSE**

BBARWA Special Meeting Attended: FINANCE Date: 1-15-18 \$ 150<sup>00</sup>

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

Other Governing Board Approved Meetings:  
\_\_\_\_\_  
Date: \_\_\_\_\_ \$ \_\_\_\_\_  
\_\_\_\_\_  
Date: \_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month)** \$ \_\_\_\_\_

**Other Governing Board Approved Expenses (Governing Board Approved)**

Mileage: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_  
Lodging: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_  
Registration: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_  
Tuition: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_  
Meals: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

**TOTAL OTHER EXPENSE REIMBURSEMENT:** \$ \_\_\_\_\_

**Uncompensated Meetings Attended:**

**PURPOSE**

\_\_\_\_\_  
Date: \_\_\_\_\_  
\_\_\_\_\_  
Date: \_\_\_\_\_

Board Member Signature: Karyn Oxandabere Total Amount Paid \$ 300<sup>00</sup>

RATES & CALCS	_____	CODING	_____	AMOUNT	_____
OPER. REVIEW	_____				
EXPEN. APP.	_____	_____	_____		
FIN. REVIEW	_____	_____	_____		

**BIG BEAR AREA REGIONAL WASTEWATER AGENCY**

**REPORT OF MEETINGS ATTENDED**

Governing Board Member: David Caretto

Date Submitted: January 24, 2018

Month Covered: January

BBARWA Regular Meeting Attended: \_\_\_\_\_ Date: 1/24/18 Compensation \$ 150

**PURPOSE**

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

**Other Governing Board Approved Meetings:**

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month)** \$ 150

**Other Governing Board Approved Expenses (Governing Board Approved)**

Mileage: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Lodging: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Registration: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Tuition: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Meals: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

**TOTAL OTHER EXPENSE REIMBURSEMENT:** \$ \_\_\_\_\_

**Uncompensated Meetings Attended:**

**PURPOSE**

\_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

Board Member Signature: David Caretto Total Amount Paid \$ 150

RATES & CALCS	_____	CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____

**BIG BEAR AREA REGIONAL WASTEWATER AGENCY**

**REPORT OF MEETINGS ATTENDED**

Governing Board Member: John Green  
Date Submitted: January 24, 2013  
Month Covered: January

BBARWA Regular Meeting Attended: \_\_\_\_\_ Date: 1/24/13 Compensation \$ 150

**PURPOSE**

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

**Other Governing Board Approved Meetings:**

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month)** \$ \_\_\_\_\_

**Other Governing Board Approved Expenses (Governing Board Approved)**

Mileage: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Lodging: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Registration: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Tuition: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Meals: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement


**TOTAL OTHER EXPENSE REIMBURSEMENT:** \$ \_\_\_\_\_

**Uncompensated Meetings Attended:**

**PURPOSE**

\_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

Board Member Signature:  Total Amount Paid \$ 150

RATES & CALCS		CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____

**BIG BEAR AREA REGIONAL WASTEWATER AGENCY**

**REPORT OF MEETINGS ATTENDED**

Governing Board Member: Rick Herrick

Date Submitted: January 24, 2018

Month Covered: January

BBARWA Regular Meeting Attended: \_\_\_\_\_ Date: 1-24-18 Compensation \$ 150.

**PURPOSE**

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Special Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: 1-15-18 \$ 150

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

BBARWA Committee Meeting Attended: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**PURPOSE**

**Other Governing Board Approved Meetings:**

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

**TOTAL ENTITLED MONTHLY STIPEND (limited to 6 days per calendar month)** \$ \_\_\_\_\_

**Other Governing Board Approved Expenses (Governing Board Approved)**

Mileage: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Lodging: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Registration: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Tuition: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Meals: \_\_\_\_\_ Date: \_\_\_\_\_ \$ \_\_\_\_\_

Note: Other Governing Board approved expenses receipts must be accompanied with the travel expense form "EXHIBIT B" and forwarded to Finance Manager or designee for reimbursement

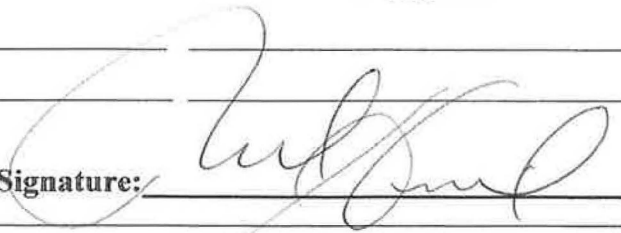
**TOTAL OTHER EXPENSE REIMBURSEMENT:** \$ \_\_\_\_\_

**Uncompensated Meetings Attended:**

**PURPOSE**

\_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

Board Member Signature:  Total Amount Paid \$ 300<sup>00</sup>

RATES & CALCS		CODING	AMOUNT
OPER. REVIEW	_____		
EXPEN. APP.	_____	_____	_____
FIN. REVIEW	_____	_____	_____



Big Bear Area Regional  
Wastewater Agency  
*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

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**AGENDA ITEM: 10.A**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager *DL*

**REVIEWED BY:** Jennifer McCullar, Finance Manager *JM*

**SUBJECT:** Bear Valley Water Sustainability Project Outreach Efforts

**BACKGROUND:**

Water Systems Consulting, Inc. (WSC), in collaboration with Big Bear Area Regional Wastewater Agency (BBARWA), Big Bear Lake Department of Water and Power (BBLDWP), Big Bear Community Service District (BCCSD) and Big Bear Municipal Water District (BBMWD), together the Project Team, has completed the preliminary evaluation of the Lake Alternative for the Bear Valley Water Sustainability Project (BVWSP). Throughout this process, we have all engaged with a variety of potential project stakeholders, many of which have expressed support for the project and excitement about the numerous benefits it will bring. Through these interactions, several potential refinements to the project have already been identified that may increase project benefits and lead to financial contributions from additional project partners. Additionally, feedback from funding agencies about the project has been tremendously positive. As the project gains momentum, the Project Team will be looking to leverage the outreach work that has been done so far, continue the dialogue with existing stakeholders, and explore opportunities to collaborate with additional stakeholders to further refine the project to achieve the most valuable combination of benefits. To provide flexibility to pursue ongoing stakeholder outreach opportunities as they arise, we have asked that WSC provide a budget estimate to conduct as-needed stakeholder outreach for the next 2-3 months. Some of the outreach activities expected to occur in this timeframe include:

- Coordination with the Army Corps of Engineers to pursue appropriation of Section 219 funds authorized under WRDA
- Coordination with downstream stakeholders regarding beneficial use of water released from the Lake

Moved: \_\_\_\_\_ Second: \_\_\_\_\_ Aye: \_\_\_\_\_ Nay: \_\_\_\_\_ Abstain/Absent: \_\_\_\_\_

Approved Date: \_\_\_\_\_ Witness: \_\_\_\_\_

Secretary of the Governing Board

- Participation in the SAWPA OWOW process to collaborate with regional stakeholders, promote the project and position for Prop 1 IRWM funding
- Preliminary discussions with other potential stakeholders to further refine the project elements or identify additional benefits that could be incorporated

The recommended budget for this near term as-needed stakeholder outreach is \$25,000. The costs will be shared among the Project Team, excluding WSC. There are numerous funding and partnership opportunities to pursue, but by continuing to work closely with the Project Team and leveraging existing knowledge and relationships, we anticipate that this stakeholder outreach effort will aid us in making important steps toward funding and implementation of the BVWSP.

**FINANCIAL IMPACT:**

The net impact after cost sharing is \$6,250 or 25% of the \$25,000 budget. There are adequate funds available in the Contingency fund for this appropriation.

**RECOMMENDATION:**

Appropriate \$25,000 for WSC's outreach efforts for the BVWSP. Costs will be shared among the Project Team (excluding WSC), resulting in a net cost to BBARWA of \$6,250.



Big Bear Area Regional  
Wastewater Agency  
*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

---

**AGENDA ITEM: 10.B**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager *DL*

**REVIEWED BY:** Jennifer McCullar, Finance Manager *JM*

**SUBJECT:** New Belt Press Project

**BACKGROUND:**

The Agency needs a new belt press to replace the current, aging belt press as the primary sludge drying equipment. The current belt press is operating above its capacity limits and replacement parts are not available. Over the past few years, the Agency has customized parts to keep this equipment running and will continue to do so, as the current belt press will remain in place and is expected to be utilized during periods of high flow. The current belt press processes 180 gallons per minute and produces 13% solids. The new belt press will process more than 360 gallons per minute and produce 17%-18% solids. Further, the new belt press should be less labor intensive and is expected to result in reduced overtime during periods of high flow. The new belt press, if approved, will be installed in the fall 2018 and be located in the covered drying bed with a conveyor belt system to disperse the solids. The New Belt Press Project (the Project) includes the new belt press, conveyor system and installation. The Project has been included in the Agency's FY 2019 capital plan and is expected to be debt financed. The Project will require purchase deposits in the current period to start production of the equipment for delivery in the fall 2018 (FY 2019).

**DISCUSSION:**

Over the past year, we have been researching the best alternative for replacing our belt press. We considered the centrifuge, screw press and belt press. Based on our evaluation, we felt that the belt press gave us the most flexibility during periods of high, seasonal flows. The centrifuge and the screw press had performance limitations that made the belt press technology the best for our particular operating situation.

Moved: \_\_\_\_\_ Second: \_\_\_\_\_ Aye: \_\_\_\_\_ Nay: \_\_\_\_\_ Abstain/Absent: \_\_\_\_\_

Approved Date: \_\_\_\_\_ Witness: \_\_\_\_\_

Secretary of the Governing Board

We contacted MISCO Water, a company which provides equipment and process solutions, and asked them to provide us with recommendations for sludge dewatering equipment manufacturers. From the manufacturers presented, we have chosen BDP industries as the preferred belt press manufacturer. This is based on reference checks, performance guarantees and reliability. We have received a proposal for the new belt press. This belt press is able to meet our unique demands of high seasonal flow (given our resort environment). BDP has provided a guarantee that this product will reach a minimum of 17% solids at 360 gallons per minute.

The total costs for the Project are as follows:

<b>Description</b>	<b>Cost</b>
BDP 2-meter 3DBP Belt filter press	\$ 577,000
Installation Belt Filter Press	\$ 323,160
Sludge Conveyor System	\$ 242,280
Subtotal	\$1,142,440
Contingency (10%)	\$ 114,244
<b>Total Project Cost</b>	<b>\$1,256,648</b>

The price for the new 2-meter 3DP belt filter press is \$577,000. BDP has estimated the build time for this belt press at 22 to 26 weeks. We are expecting to install the new belt press in September or early October 2018. If the Project is approved by the Board, the Agency will make a 30% payment (\$173,100) to begin construction of the new belt press, as required by BDP.

To ensure compliance with all manufacturer warranties, BDP industries has provided us with a list of approved installers. With that we have selected Spies Construction Co, INC. based on their performance history, reliability and availability. In general, the installation will include, unloading the belt press, bolting it to the existing floor in the dry storage building, running electric to the new unit, installing waste line from the sludge building, installing a new drain line and building an internal 25-foot by 36-foot building inside the existing dry storage building. The total cost of installation is \$323,160 which is comprised of installation costs of \$248,160 and a building allowance of \$75,000.

To accomplish moving the sludge to locations where it can be moved and spread, a conveyor system will be installed as part of the project. The conveyor includes a 35-foot-long by 24" wide belt conveyor and an 18" wide by 13 ½ feet long horizontal reversible conveyor. This system will place the sludge into two, 20-foot long by 15 feet wide 10 feet deep storage facilities. The price for this conveyor system is \$242,280. If the Project is approved by the Board, the Agency will make a 20% payment (\$48,456) to begin construction of the new conveyor belt, as required by the equipment supplier.

**ENVIRONMENTAL IMPACT:**

The modification of the existing covered drying bed/sludge storage building to include the new belt press is exempt from further review under the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guidelines section 15301. Section 15301 exempts activities that involve the minor alteration of existing public structures and facilities. Here, the Agency proposes to modify the existing covered drying bed building to accommodate the new belt press. Such activity will involve negligible or no expansion of use of the facility beyond that existing at the present time. Staff also has determined that no exceptions to the application of this exemption applies pursuant to State CEQA Guidelines section 15300.2. Specifically, the project does not present any unusual circumstances such



as unusual resources, an unusual location, or unusual physical qualities inherent to the project site that might result in significant impacts; the project would not result in significant cumulative impacts; the project would not damage scenic resources, including any resources in the area of a Scenic Highway; the facility is not located on a hazardous waste site; and the project would not impact historic resources of any kind. For these reasons, staff recommends that the Board of Directors find that the project is exempt from further CEQA review.

**FINANCIAL IMPACT:**

The Agency expects to debt finance the Project and has received two preliminary term sheets related to such financing, which includes financing for the Project and new pipeline to be constructed in FY 2019. The Agency will cash fund the required deposits of approximately \$225,000 at the time of the purchase orders and plans to be reimbursed for such amount from the debt proceeds at the time of borrowing which will coincide with delivery of the new belt press and conveyor system (fall 2018). The new debt will come before the Board once acceptable terms and conditions, and a commitment letter from a lender has been received. If the Project is approved currently, and new debt financing is not later secured, the Agency has adequate cash available in its capital and replacement fund to complete the project; however, other projects in the Agency's five-year capital plan, would likely need to be rescheduled if this were to occur.

**RECOMMENDATION:**

1. The Governing Board find that the sludge dewatering project (i.e., Acquisition and Installation of a BDP Industries Belt Press and sludge conveyor system) is Exempt from the California Environmental Quality Act pursuant to the Class 1 (Existing Facilities) Exemption; and
2. The Governing Board approve the \$1.3 million New Belt Press Project. Appropriate \$225,000 of the Project costs to occur in FY 2018 (lowering the FY 2019 Capital Budget by \$225,000). Authorize the General Manager to enter into contracts for the Acquisition and Installation of a BDP Industries Belt Press and sludge conveyor system in amounts not to exceed \$1.3 million in total.



Big Bear Area Regional  
Wastewater Agency  
*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

---

**AGENDA ITEM: 10.C**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager *DL*

**REVIEWED BY:** Jennifer McCullar, Finance Manager *JM*

**SUBJECT:** Emergency Generator Repairs

**DISCUSSION:**

Over the past ten months, the Agency's main source of power, the 600 KW Waukesha generator has been experiencing many repair issues. The repair issues are due to age and operational decisions. Recently the Waukesha experienced a failure that required the replacement of two cylinders, the turbo boost, and a wastegate. We have brought in generator experts to assist us in these repairs. Cost of these emergency repairs are \$30,000. We have noticed an upward trend in expenses due to the age of the equipment.

**FINANCIAL IMPACT:**

There are adequate funds available in the Contingency Fund for the appropriation.

**RECOMMENDATION:**

Appropriate \$30,000 from the Contingency Fund for the emergency generator repairs.



The above reflects the rates recommended by HDR through FY 2023. These are the same rate assumptions that are in the Agency’s budget and five-year projection (FY 2019 – FY 2023).

**Waste Hauler Fees (\$ per 1,000 gallons)**

Waste Type	Current	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Chemical Toilet	\$60.45	\$62.14	\$63.88	\$65.74	\$67.71	\$69.64
Holding Tank	\$6.43	\$6.61	\$6.80	\$6.99	\$7.20	\$7.42
Septic Tank	\$72.33	\$74.36	\$76.44	\$78.65	\$81.01	\$83.44
% Change		2.8%	2.8%	2.9%	3.0%	3.0%

The recommended change in the waste hauler fee is the same as proposed for the change in the sewer user charge.

**Connection Fee**

The connection fee analysis proposes a maximum connection fee of **\$4,180 compared to \$3,670** currently. The increase resulted from changes in the value of the existing facilities and the planned future capital projects.

**FINANCIAL IMPACT:**

Updating the Agency’s rate studies on a regular basis ensures that the Agency’s rates are adequate, fair and stable over time. This type of planning provides for financial stability and rate stability. The proposed inflationary adjustments to the Agency’s sewer user charges are consistent with previous forecasts and financial plans.

**RECOMMENDATION:**

The studies are for informational purposes and provide support for future rate and fee adjustments.

Attachments:

- a) Regional Sewer Connection Fee Study
- b) Comprehensive Sewer Rate Study



## FINAL REPORT



**Big Bear Area Regional Wastewater Agency**  
*Regional Sewer Connection Fee*  
February 2018





February 21, 2018

Ms. Jennifer McCullar  
Finance Manager  
Big Bear Area Regional Wastewater Agency  
121 Palomino Drive  
Big Bear Agency, CA 92314

**Subject: Development of the Agency's Sewer Connection Fee Final Report**

Dear Ms. McCullar:

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Regional Wastewater Agency (Agency) to conduct a study to develop cost-based sewer connection fees. Enclosed please find HDR's final report for this study. The conclusions and recommendations contained within this report should enable the Agency to implement cost-based sewer connection fees that meet the Agency's growth and financial policy objectives.

This report has been prepared using "generally accepted" financial, rate and fee setting, and engineering principles. The Agency's financial, budgeting and engineering data were the primary sources for much of the data contained in this report.

HDR appreciates the opportunity to assist the Agency in this matter. We also would like to thank you and your staff for assistance provided to us during the development of this study.

Very truly yours,  
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', written over a light blue horizontal line.

Shawn Koorn  
Associate Vice President

hdrinc.com

929 108<sup>th</sup> Ave NE, Suite 1300, Bellevue, WA 98004  
T 425-450-6200



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# Executive Summary

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## Introduction

HDR Engineering, Inc. (HDR) was retained by Big Bear Area Regional Wastewater Agency (Agency) to conduct a comprehensive study to review and update the regional sewer connection fees. The purpose of connection fees is to recover the costs of public facilities in existence at the time the fee is imposed or for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged. These fees are charged to new customers connecting to the system, or to existing customers increasing their demands (i.e., capacity use).

The current connection fee is based on an analysis completed in 2010. By establishing a cost-based connection fee, the Agency will be taking an important step in providing adequate infrastructure to meet growth-related needs and, more importantly, providing this required infrastructure to new customers in a cost-based, fair and equitable manner. This report provides a summary of the findings, conclusions and recommendations from HDR's connection fee study for the Agency. This report provides the basis for the Agency to implement a cost-based connection fee.

## Summary and Conclusions

The connection fee must be implemented according to the capacity requirement, or impact, each new customer has on the utility system. By doing so, the connection fee is directly related to the impact the customer places on the system, and to the proportional benefit the customer derives from the service provided.

In very simplistic terms, the Agency's connection fee is based on the replacement value of the existing system along with future capital infrastructure needed to accommodate future growth, divided by the number of equivalent dwelling units (EDUs) served by that capacity. The calculations also take into account the financing mechanisms of capital improvements. Based on the sum of the existing and future component costs, the net allowable utility connection fee is determined. "Net" refers to the calculated "gross" connection fee, less any debt service credits. "Allowable" refers to the concept that the calculated connection fees are the Agency's maximum cost-based charge. As a matter of policy, the Agency may charge any amount up to the cost-based connection fee, but not in excess of that amount. Charging an amount greater than the "allowable" connection fee would not meet the nexus test of a cost-based connection fee related to the benefit derived by the customer.

The Agency charges new customers connecting to the sewer system a one-time connection fee. The fee is a reimbursement for their portion of the system use that has been funded through rates (i.e., existing customers) over time on a per equivalent dwelling unit (EDU) basis. The current EDU is estimated to use 172 gallons of wastewater flow per day. The fee is charged on a per EDU basis and applied to all customers based on the total number of system EDUs.

To begin to calculate the proposed maximum allowable connection fee for the regional sewer system, the value of the existing infrastructure was developed. As a result of this analysis, a replacement cost net of current depreciation expense was produced. In this way, the existing system was valued at today's value, and reduced to reflect the depreciated value. In addition to the existing system, future improvements related to providing capacity, or service, to new customers connecting to the system were added. It is also important to note that the value of the existing system was reduced to reflect those projects that were not funded by the Agency (for example, funding from the 1995 HUD grant). Finally, the fee was reduced to reflect outstanding debt that was used to fund existing system improvements so that customers do not pay twice, once through the connection fee and again through rates. Based on this analysis, which is discussed in more detail later in this report, the maximum allowable sewer connection fee can be developed.

Provided in Table ES - 1 is a summary of the existing fee for one (1) EDU and the proposed maximum allowable fee.

Table ES – 1 Existing and Maximum Allowable Sewer Connection Fee		
Fee Description	Existing Connection Fee	Maximum Allowable Connection Fee
Sewer Connection Fee	\$3,670	\$4,180

The detailed development of the Agency's sewer connection fee is presented in Section 4. Technical appendices are included within this report to document the technical analyses that were undertaken as a part of this study.

## Summary

This report documents the development of the Agency's maximum allowable regional sewer connection fee. The development of this fee utilized generally accepted engineering and rate and fee principles, while applying Agency specific planning, asset and customer information. HDR would recommend that the Agency have its legal counsel review the connection fee before any adjustments are made to ensure compliance with California law.



# 1 Introduction

---

## 1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Wastewater Agency (Agency) to review and update its regional sewer connection fee. The objective of this study is to calculate a cost-based connection fee for new customers connecting to the utility system, or those customers requesting additional capacity. These fees provide the means of balancing the cost requirements for utility infrastructure between existing customers and new customers. The portion of existing infrastructure and future capital improvements that will provide service (i.e., capacity) to new customers is included in the calculation of the connection fees. In contrast to this, the Agency has future capital improvement projects that are related to renewal and replacement of existing infrastructure in service. These infrastructure costs are included within the rates of the sewer service charged to the Agency's customers, and are not included within the calculation of the proposed connection fee. By establishing a cost-based connection fee, the Agency maintains an approach of having "growth pay for growth" and existing utility customers should - for the most part - be sheltered from the financial impacts of growth.

***"By establishing cost-based connection fees the Agency maintains an approach of having "growth pay for growth" and existing utility customers should - for the most part - be sheltered from the financial impacts of growth."***

## 1.2 Organization of Report

This report documents the methodology, approach and technical analysis undertaken by HDR and the Agency to develop the sewer connection fee. The report is divided into four sections:

- ❖ **Section 2**  
A general overview of the development of connection fee and the criteria and general methodology that should be used to calculate and establish cost-based fees.
- ❖ **Section 3**  
An overview of the requirements under California law for determining connection fees.
- ❖ **Section 4**  
A Review of the Agency specific calculations of the cost-based regional sewer connection fee.

## 1.3 Disclaimer

HDR, in its calculation of the sewer connection fees presented in this report, has used "generally accepted" engineering and rate and fee making principles. This should not be construed as a legal opinion with respect to California law. HDR recommends that the Agency

have its legal counsel review the connection fee as set forth in this report to ensure compliance with California law.





## 2 Overview of Connection Fees

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### 2.1 Introduction

An important starting point in establishing connection fees is to have a basic understanding of the purpose of these fees, along with the criteria and general methodologies that are used to establish cost-based fees. Presented in this section of the report is an overview of these fees and the criteria and general methodologies that may be used to develop cost-based connection fees.

### 2.2 Defining Connection Fees

The first step in establishing cost-based connection fees is to gain a better understanding of the definition of a system development charge (SDC) (i.e., a connection fee). For the purposes of this report, an SDC or connection fee is defined as follows:

*“System development charges (connection fees) are one-time charges paid by new development to finance construction of public facilities needed to serve them.”<sup>1</sup>*

Simply stated, connection fees are a contribution of capital to reimburse existing customers for the available capacity in the existing system, and help finance planned future growth-related capacity improvements. At some utilities, connection fees may be referred to as system development charges, capacity fees, connection charges, plant investment fees, etc. Regardless of the label used to identify them, their objective is the same. That is, these charges are intended to provide funds to the utility to finance all or a part of the existing system or new capital improvements needed to serve and accommodate new customer growth. Absent those fees, many utilities would likely be unwilling to build growth-related facilities (i.e., burden existing rate payers with the entire cost of growth-related capacity expansion).

### 2.3 Economic Theory and Connection Fees

Connection fees are generally imposed as a condition of service. The objective of a connection fee is not to generate money for a utility, but to ensure that all customers seeking to connect to or requiring additional capacity in the utility’s system bear an equitable share of the cost of capacity that is invested in both the existing system and any future growth-related expansions. Through the implementation of fair and equitable connection fees, existing customers should not be unduly burdened with the cost of new development.

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<sup>1</sup> Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, p. 1,

By establishing cost-based fees, the Agency will be taking an important step in providing adequate infrastructure to meet growth-related needs, and more importantly, providing this required infrastructure to new customers in a cost-based, fair, and equitable manner.

## 2.4 Connection Fee Criteria

In the determination and establishment of the connection fees, a number of different criteria are often utilized. The criteria often used by utilities to establish these fees are as follows:

- Customer understanding
- System planning criteria
- Financing criteria, and
- State/local laws

The component of customer understanding implies that the fee is easy to understand. This criterion has implications on the way that the fees are implemented and assessed to the customer. For the sewer system, it can be based on the size of the meter, or the amount of flow for one dwelling unit is determined and used to assess the number of equivalent residential units, or ERUs. The other implication of this criterion is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

The use of system planning criteria is one of the more important aspects in the determination of connection fees. System planning criteria provides the “rational nexus” between the amount of infrastructure necessary to provide service and the charge to the customer. The rational nexus test requires that there be a connection (nexus) established between the burden of new development on the existing or new or expanded facilities required to accommodate new or expanded development, and the appropriate apportionment of the cost to the new or expanded development in relation to benefits reasonably received.

**“System planning criteria provides the “rational nexus” between the amount of infrastructure necessary to provide service and the charge to the customer.”**

To comply with the rational nexus test the calculated fees require the following:

1. *“A connection be established between new development and the new or expanded facilities required to accommodate such development. This establishes the rational basis of public policy.*
2. *Identification of the cost of these new or expanded facilities needed to accommodate new development. This establishes the burden to the public of providing new facilities to new development and the rational basis on which to hold new development accountable for such costs. This may be determined using the so-called Banberry factors. [Banberry Development Company v. South Jordan City (631 P.2d 899, Utah 1981)].*
3. *Appropriate apportionment of that cost to new development in relation to benefits it reasonably receives. This establishes the nexus between the fees being paid to finance*

*new facilities that accommodate new development and benefit new development receives from such new facilities.”<sup>2</sup>*

The first bullet of the rational nexus test requires the establishment of a rational basis of public policy. This implies the planning and capital improvement studies that are used to establish the need for new facilities to accommodate growth. Adopted master plans or facility plans should firmly meet this first test since these plans assess existing facilities and capacity, project future capacity requirements, and determine the future capital infrastructure and new facilities needed to accommodate growth.

The second portion of the rational nexus test discusses the Banberry Factors. In summary, *“consideration must be given to seven factors to determine the proportionate share of costs to be borne by new development:*

- 1. The cost of existing facilities*
- 2. The means by which existing facilities have been financed*
- 3. The extent to which new development has already contributed to the cost of providing existing excess capacity*
- 4. The extent to which existing development will, in the future, contribute to the cost of providing existing facilities used community wide or non-occupants of new development*
- 5. The extent to which new development should receive credit for providing, at its cost, facilities the community has provided in the past without charge to other development in the service area.*
- 6. Extraordinary costs incurred in serving new development*
- 7. The time-price differential inherent in fair comparisons of amount of money paid at different times.”<sup>3</sup>*

The final portion of the rational nexus test is the reasonable apportionment of the cost to new development in relation to benefits it reasonably receives. This is accomplished in the methodology to establish the connection fees, which is discussed in more detail within this section.

One of the driving forces behind establishing cost-based connection fees is that “growth pays for growth.” Therefore, these fees are typically established as a means of having new

***“One of the driving forces behind establishing cost-based connection fees is that “growth pays for growth.”***

customers, and those requiring additional capacity in the utility system, pay an equitable share of the cost of their required infrastructure. The financing criteria for establishing the fees relates to the method used to finance infrastructure on the system and assures that customers are not paying twice for infrastructure – once through the connection fees and again through sewer service fees (e.g., rates). The double payment can come in through the imposition of growth-related infrastructure debt service within a

customer’s rates. The financing criteria also reviews the basis under which main line extensions

<sup>2</sup> Ibid, p. 16 and 17.

<sup>3</sup> Ibid, P. 18 and 19.

were provided and assures that the customer is not charged for infrastructure that was provided (contributed) by developers.

Many states and local communities have enacted laws which govern the calculation and imposition of these types of development fees. These laws must be followed in the development of these types of fees. Most statutes require a “reasonable relationship” between the fee charged and the cost associated with providing service capacity to the customer. (California legal requirements are described in Section 3 of this report.) The fees do not need to be mathematically exact, but must bear a reasonable relationship to the cost burden imposed and benefits received. As discussed above, the utilization of the planning and financing criteria and the actual costs of construction and the planned costs of construction provide the nexus for the reasonable relationship requirement.

## 2.5 Overview of the Connection Fee Methodology

In establishing connection fees, there are differing methodologies. The AWWA M-1 Manual discusses three generally accepted SDC methods;

- ✓ “The *buy-in method* is based on the value of the existing system’s capacity. This method is typically used when the existing system has sufficient capacity to serve new development now and into the future.
- ✓ The *incremental cost method* is based on the value or cost to expand the existing system’s capacity. This method is typically used when the existing system has limited or no capacity to serve new development now and into the future.
- ✓ The *combined approach* is based on a blended value of both the existing and expanded system’s capacity. This method is typically used where some capacity is available in parts of the existing system (e.g. source of supply), but new or incremental capacity will need to be built in other parts (e.g., treatment plant) to serve new development at some point in the future.”<sup>4</sup>

For the development and calculation of the Agency’s connection fees the “combined approach” was used since there is available capacity in the existing system, but there is a need for future (capacity) expansion to meet future customer growth on the system. Accordingly, the value of Agency assets and future projects will be determined and then be divided by the total number of existing and future EDUs. The result will be the maximum allowed total connection fee.

Regardless of the overall methodology selected, a common denominator of the technical analyses is the various steps undertaken. These steps are as follows:

1. Determination of system planning criteria
2. Determination of equivalent dwelling units (EDUs)
3. Calculation of existing system costs
4. Determination of any credits

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<sup>4</sup> AWWA M-1 Manual, p 6<sup>th</sup> Edition, p. 265-266.



The first step in establishing connection fees is the determination of the system planning criteria. This implies calculating the amount of water or sewer capacity required by a single-family residential customer.

The number of EDUs were developed based on the current calculation of EDUs served by the Agency and current flows to the regional sewer system. This approach provides the needed linkage between the amount of infrastructure necessary to provide service to a set number of customers.

Once the number of equivalent dwelling units or capacity components for the system is determined, a component-by-component system analysis is undertaken to determine the portion of the connection fee attributable in dollars per equivalent dwelling unit. In this process, the existing assets must be valued. Existing assets may be valued in a number of different ways. These methods may include the following:

- ✓ Original Cost (OC)
- ✓ Original Cost Less Depreciation (OCLD)
- ✓ Replacement Cost New (RCN)
- ✓ Replacement Cost New Less Depreciation (RCNLD)

Given these four different methods for valuing the assets, the selection of the valuation method certainly arises. The American Water Works Association M-1 manual notes the following concerning these various generally accepted valuation methods:

*“Using the OC and OCLD valuations, the [connection fee] reflects the original investment in the existing capacity. The new customer “buys in” to the capacity at the OC or the net book value cost (OCLD) for the facilities and as a result pays an amount similar to what the existing customers paid for the capacity (OC) or the remaining value of the original investment (OCLD).*

*Using the RCN and the RCNLD valuations, the [connection fee] reasonably reflects the cost of providing new expansion capacity to customers as if the capacity was added at the time the new customers connected to the water system. It may be also thought of as a valuation method to fairly compensate the existing customers for the carrying costs of the excess capacity built into the system in advance of when the new customers connect to the system. This is because, up to the point of the new customer connecting to the system, the existing customers have been financially responsible for the carrying costs of that excess capacity that is available to development.”<sup>5</sup>*

As a point of reference for this study, the Agency’s sewer connection fee analysis will use a RCNLD methodology for all assets. The future capital infrastructure needed to accommodate future growth will be based on the Agency’s current capital plan. The existing infrastructure and future expansion projects are then added to the total cost component. This total future cost is divided by the total equivalent dwelling units to determine the “gross connection fee”. Based

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<sup>5</sup> Ibid., p. 268

on the sum of the existing and future component costs, the net allowable utility connection fee is determined. “Net” refers to the calculated “gross” connection fee, net of any debt service credits. “Allowable” refers to the concept that the calculated connection fees are the Agency’s maximum cost-based charge. The Agency, as a matter of policy, may charge any amount up to the cost-based connection fee, but not in excess of that amount. Charging an amount greater than the “allowable” connection fee would not meet the nexus test of a cost-based connection fee related to the benefit derived by the customer.

## **2.6 Summary**

This section of the report has provided an overview of connection fees; the basis for establishing cost-based fees, considerations in establishing the fees, the burden development places on the system and the technical or analytical steps typically taken in the development of the fees. In the development of the Agency’s connection fee study, the issues identified in this section of the report have been addressed and will be discussed in more detail in later sections of the report. The next section of the report provides a brief overview of the legal considerations in establishing connection fees as they relate to California law.



## 3 Legal Considerations in Establishing Connection Fees

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### 3.1 Introduction

An important consideration in developing connection fees is any legal requirements at the state or local level. The legal requirements often provide the authority to establish the fees, but also may provide a general methodology around which the connection fees must be calculated or how the funds must be used. Given that, it is important for the Agency to understand these legal requirements and develop and adopt fees which comply with those legal requirements. This section of the report provides an overview of the legal requirements for establishing connection fees under California law. A discussion of the applicability of Proposition 218 and Proposition 26, as it relates to these fees is also provided.

The discussion within this section of the report is intended to be a summary of our understanding of the relevant California law as it relates to establishing connection fees. It in no way constitutes a legal interpretation of California law by HDR.

### 3.2 Requirements Under California Law

Many states have specific laws regarding the establishment, calculation and implementation of connection fees. The main objective of most state laws is to assure that these charges are established in such a manner that they are fair, equitable and cost-based. In other cases, state legislation may have been needed to provide the legislative powers to the utility to establish the charges.

The laws for the enactment of connection fees in California are codified in California Government Code sections 66013, 66016, and 66022, which are interspersed within the 'Mitigation Fee Act.' The Mitigation Fee Act is comprehensive legislation dealing mainly with connection fees, although the above sections set forth the various requirements for imposition of connection fees in California: calculation of the fees, noticing, accounting and reporting requirements, and processes for judicial review. Although contained within the Mitigation Fee Act, connection fees are not development fees.

*"The laws for the enactment of connection fees in California are found in California Government Code sections 66013, 66016, and 66022 within the 'Mitigation Fee Act.'"*

A summary of the relevant statutes required in the calculation of connection fees is as follows:

*“66013 (a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”*

*“66013 (b) (3) ‘Capacity charge’ means a charge for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that are of benefit to the person or property being charged. . . .”*

In addition to the determination of “the estimated reasonable cost of providing the service for which the fee is imposed,” California law also requires the following:

- ✓ That notice (of the time and place of the meeting, including a general explanation of the matter to be considered) and a statement that certain data is available be mailed to those who filed a written request for such notice;
- ✓ That certain data (the estimated cost to provide the service and anticipated revenue sources) be made available to the public;
- ✓ That the public agency provide an opportunity for public input at an open and public meeting to adopt or modify the fee; and
- ✓ That revenue in excess of actual cost be used to reduce the fee creating the excess.

The basic principle that needs to be followed under California law is that the charge be based on a proportionate share of the costs of the system required to provide service and that the requirements for adoption and accounting be followed in compliance with California law.

### **3.3 Propositions 218 and 26 and Connection Fees**

In 1996, the voters of California approved Proposition 218, which required that the imposition of certain fees and assessments by municipal governments require a vote of the people to change or increase the fee or assessment. Of interest in this particular study is the applicability of Proposition 218 to the establishment of connection fees for the Agency.

In *Richmond v. Shasta Community Services Dist.*, 32 Cal.4th 409 (2004), the California Supreme Court held that water connection fees are not “assessments” under Proposition 218 because they are imposed only on those who are voluntarily seeking water service, rather than being charged to particular identified parcels, and therefore such fees are not subject to the procedural or substantive requirements of Proposition 218. Additionally, the court held that a connection fee is not a development fee. The court also held that such fees can properly be enacted by either ordinance or resolution.

In November 2010 the voters of California passed Proposition 26, an initiative based state constitutional amendment, which provided a new definition of the term “tax” in the California

Constitution. Under Proposition 26 a fee or charge imposed by a public agency is a tax unless it meets one of seven exceptions. Connection fees fall within exception 2 – i.e., it is a charge imposed for a specific government service. Provided that a connection fee does not charge one fee payor more in order to charge another fee payor less (i.e., a cross-subsidy), and it does not exceed the reasonable costs to the local government of providing the service, then the fee is not a tax within the meaning of Proposition 26. Under Proposition 26, the local government bears the burden of proving, by a preponderance of the evidence, that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.

### **3.4 Summary**

This section of the report has provided an overview of the legal requirements under California law for the establishment of connection fees. As was noted above, an important legal requirement is that the fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed. The following section of the report provides the Agency's calculation of the sewer connection fee, and provides the basis for the establishment of reasonable cost based fees. Again, HDR's summary of the legal requirements in no way constitutes a legal interpretation of California law by HDR. HDR recommends that the Agency's legal counsel review the development of the proposed sewer connection fee.



## 4 Determination of the Agency's Sewer Connection Fee

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### 4.1 Introduction

This section of the report presents the details and key assumptions in the calculation of the Agency's regional sewer connection fees. The calculation of the Agency's sewer connection fee is based on the Agency's accounting and planning information. Specifically, the connection fees are based on the Agency's capital replacement plan which details the value of the assets; the Agency's current capital improvement plans; existing equivalent dwelling units (EDUs) and the projection of future EDUs. As was noted in Section 2 of this report, the Agency's planning documents and projections of future EDUs provide the required support for a "rationally based public policy" to support the imposition of cost-based connection fee.

To the extent that the cost and timing of future capital improvements change, then the connection fees presented in this section of the report should be updated to reflect the changes.

### 4.2 Overview of the Agency's Sewer System

Big Bear Area Regional Wastewater Agency was formed in 1974, consists of 15 square miles, and serves the community of the Big Bear Valley in California. The Agency is served by three separate collection systems maintained and operated by the Agency's three member agencies: the City of Big Bear Lake, the Big Bear City Community Services District, and San Bernardino County on behalf of County Service Area 53B. Each Member Agency maintains and operates its collection system and delivers wastewater to the BBARWA interceptor system for transport to the Agency's treatment plant.

The Agency owns and operates a Wastewater Treatment Plant (WWTP) with a hydraulic capacity of 9.6 mgd, and a secondary wastewater treatment capacity of 4.89 mgd. The WWTP is currently operating at about 2.45 mgd. The effluent from the WWTP is discharged to farm lands in Lucerne Valley. The sludge is collected, dewatered and hauled to disposal facilities.

The Agency's system consists of three main lines which are the Lake Pump Station Force Main, the North Shore Interceptor, and the BBARWA Trunk Line. The system also includes four pump stations, three air injection stations, and one metering station. The Agency served approximately 20,310 residential units in 2009 with an assumed occupancy rate of 38%.

### 4.3 Current Sewer Connection Fees

The Agency's current sewer connection fee is based on one (1) EDU. The Agency's current sewer connection fee is shown below in Table 4 - 1.

**Table 4 – 1  
Current Sewer Connection Fee**

	<b>\$/ EDU</b>
<b>Sewer Connection Fee</b>	\$3,670

#### **4.4 Net Allowable Sewer Connection Fees**

In calculating the regional sewer connection fees for the Agency, existing infrastructure costs, debt service for existing facilities, future capital improvements relating to expansion/growth were included. The methodology used to calculate each of these components is described below.

##### **4.4.1 System Planning Criteria**

System planning criteria are used to establish the capacity needs of an equivalent dwelling unit (EDU). Based on the Agency’s Sewer System Plan, a volume of 172 gallons per day per full time residential EDU was established. The average daily flow at plant is 2.45 million gallons a day. Table 4 - 2 provides a summary of the planning criteria used to establish the Agency’s sewer connection fees.

**Table 4 – 2  
Summary of the Sewer System Planning Criteria**

<b>Planning Criteria Description</b>	
Gallons per Full Time Residential EDU per day	172
Average Daily Flow (MGD)	2.45
2018 EDUs <sup>[1]</sup>	24,917

[1] EDUs based on 12/31/16 count as reported by member agencies

As previously discussed, certain system facilities may be planned and sized around different planning criteria. Therefore, the system planning criteria shown above were used for different plant components to determine the cost per EDU for that specific plant component.

##### **4.4.2 Equivalent EDUs**

The planning horizon of this analysis was 2019 to 2038. As part of this study, a projection of new EDUs per year was determined, along with the total number of EDUs in 2038. This information was based on the data provided in the Agency’s current rate study and reported by the Member Agencies. EDUs are projected to be 25,001 in 2019 and are projected to grow to 26,046 in 2038. A projection of EDUs at full capacity of the treatment plant and collection system was also calculated for the existing infrastructure cost, or “buy-in” component of the Fee. A summary of the EDUs for 2019 and 2038 are presented below in Table 4 - 3. Details of the EDU projection are provided in Exhibit 1 of the Technical Appendix.

**Table 4 – 3  
Sewer System Equivalent Dwelling Units**

Description	Calculated EDUs
Equivalent Dwelling Units – 2019	25,001
Equivalent Dwelling Units – 2038	26,046

Given the development of the total EDUs for each year of the planning period, the focus can shift to the calculation of the connection fee for each plant component. This aspect of the analysis is discussed below.

**4.4.3 Existing or Buy-In Component**

To calculate the value of the existing assets for the buy-in component, the Agency’s methodology considered the replacement cost of each asset. The replacement cost of each asset was then depreciated for the remaining useful life (i.e., replacement cost less depreciation).

The Agency provided an asset listing for the various existing components and their installation dates. The replacement value of the existing system was based on costs from the financial report. Based on the installation date for each asset and an estimated useful life provided by the Agency, the replacement cost for each asset was depreciated. Existing facilities not funded by the Agency were excluded from the connection fee as these contributions do not reflect the investment made by the Agency.

The inclusion of a “debt service credit” avoids double charging the customer for the asset value in the existing or buy-in component of the connection fee, and also in the debt service component of the rates. The principal portion of the debt service balance on existing assets is removed from the value prior to calculating the buy-in portion of the fee.

**4.4.4 Debt Service Component**

This component accounts for the principal on existing assets. By segregating the debt service costs, the cost can be clearly identified and calculated appropriately. To avoid double-counting of the assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure value.

The Agency has one outstanding issue for the sewer system. It is the Compass Bank Loan. The total debt service principal eligible is \$3,223,168. Further detail can be seen in the Sewer Technical Appendix.

**4.4.5 Future Components**

An important requirement for a connection fee study is the connection between the anticipated future growth on the system and the required facilities needed to accommodate that growth. For purposes of this study, the Agency’s most current Capital Improvement Plan (CIP) for a twenty year planning period was provided and Agency staff reviewed capital



improvements which were growth related and determined the percentage related to meeting new growth on the system. Capital improvements that were growth-related totaled \$12,210,237. The Sewer Technical Appendix contains the details of this portion of the fee.

Based on the sum of the component costs, the net allowable sewer connection fee was determined. "Allowable" refers to the concept that the calculated connection fee is the Agency's cost-based sewer connection fee. The Agency, as a matter of policy, may charge any amount up to the allowable connection fee, but not in excess of that amount. Charging an amount greater than the allowable sewer connection fee would not meet the nexus test of a cost-based connection fee. Shown in Table 4 – 4 is a summary of the calculation by component.

<b>Table 4 – 4</b>	
<b>Summary of the Connection Fee Calculation</b>	
<b>Description</b>	
<b>Existing Plant</b>	
Treatment	\$18,598,539
Collection	3,028,228
General	<u>3,160,449</u>
<b>Total Existing Plant</b>	<b>\$24,787,217</b>
Less: Contributed Capital	(\$1,468,597)
Less: Outstanding Principal	<u>(3,223,168)</u>
<b>Net Existing Plant</b>	<b>\$20,095,452</b>
Buildout EDUs	28,430
<b>Existing Plant Connection Fee (unrounded)</b>	<b>\$707</b>
<b>Future Plant</b>	
Treatment	\$10,141,166
Collection	1,862,776
General	<u>206,295</u>
<b>Total Future Plant</b>	<b>\$12,210,237</b>
Future EDUs	3,513
<b>Future Plant Connection Fee</b>	<b>\$3,476</b>
<b>Total Connection Fee (unrounded)</b>	<b>\$4,183</b>
<b>Total Connection Fee Rounded for Implementation</b>	<b>\$4,180</b>

As can be seen in Table 4 - 4, the maximum allowable sewer connection fee is \$4,180 for a 1 EDU. The connection fee varies based on the number of EDU's charged to each customer.

## 4.5 Key Sewer Assumptions

In the development of the Agency's sewer connection fee, a number of key assumptions were utilized. These are as follows:

- The sewer connection fees were developed on the basis of the Agency's planning documents, anticipated future connections and the needed capital improvements to serve those future connections.
- The assumed equivalent dwelling unit is 172 gallons of flow per day.
- The Agency's asset records were used to determine the existing infrastructure assets and their value.
- Contributions were excluded from the analysis and calculation of the sewer connection fee.
- The Agency provided financial records related to future sewer debt service payments.
- The Agency provided the most recent sewer CIP for future expansion improvements over a twenty year planning period.
- The Agency determined the portion of future improvements that were growth-related.
- The base year for the CIP was assumed at 2018.
- The calculation of the debt credit component included current outstanding principal on existing assets.

## 4.6 Implementation of the and Sewer Connection Fees

HDR would recommend that the Agency adjust the sewer connection fee on an annual basis using the Engineering News Record Construction Cost Index (ENR-CCI) to reflect the cost of interest and inflation. After five years, major infrastructure changes, or updated planning documents, HDR recommends that the Agency update the sewer connection fee based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated master plan or CIP.

## 4.7 Consultant Recommendations

Based on our review and analysis of the Agency's fees, HDR provides the following recommendations:

- ❖ The Agency should revise and update its sewer connection fee to the calculated maximum allowable sewer connection fee shown in this study. The fees are applicable for any new customers connecting to the sewer system, or an existing customer requesting/requiring additional capacity. The adopted sewer connection fee shall not exceed the calculated fee as set forth in this report.
- ❖ The Agency should make periodic (annual) adjustments to the sewer connection fee based on changes in the Engineering News Record Construction Cost Index.
- ❖ The Agency should update the actual calculations for the sewer connection fee based on the methodology as approved by the resolution or ordinance setting forth the methodology for sewer connection fee at such time when a new CIP, facilities plan, master plan or a comparable plan is approved or updated by the Agency for the sewer systems.

## 4.8 Summary

The development of the sewer connection fees by HDR utilized generally accepted engineering and rate and fee making principles, while applying Agency specific planning, asset and customer information. HDR would recommend that the Agency have its legal counsel review the sewer connection fee and this report before any adjustments are made to ensure compliance with California law.



## Technical Appendix

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**Big Bear Area Regional Wastewater Agency**  
**Connection Fee Analysis**  
**Development of EDUs**  
**Exhibit 1**

EDU = Equivalent Dwelling Unit (*amount used in a typical household*)

Gallons per EDU per day <sup>[1]</sup>	<b>172</b>
Average Daily Flow (MGD) <sup>[2]</sup>	<b>2.45</b>
Occupancy Adjustment	<b>57.5%</b>
2018 EDU's <sup>[3]</sup>	<b>24,917</b>
Buildout EDU's <sup>[4]</sup>	<b>28,430</b>
Net Future EDU's (2018 - Buildout)	<b>3,513</b>

Year	Growth Rate	EDUs	Additional EDUs per Year	Total New EDUs	Total EDUs
2019	0.3%	25,001	84	84	25,001
2020	0.2%	25,056	55	139	25,056
2021	0.2%	25,111	55	194	25,111
2022	0.2%	25,166	55	249	25,166
2023	0.2%	25,221	55	304	25,221
2024	0.2%	25,276	55	359	25,276
2025	0.2%	25,331	55	414	25,331
2026	0.2%	25,386	55	469	25,386
2027	0.2%	25,441	55	524	25,441
2028	0.2%	25,496	55	579	25,496
2029	0.2%	25,551	55	634	25,551
2030	0.2%	25,606	55	689	25,606
2031	0.2%	25,661	55	744	25,661
2032	0.2%	25,716	55	799	25,716
2033	0.2%	25,771	55	854	25,771
2034	0.2%	25,826	55	909	25,826
2035	0.2%	25,881	55	964	25,881
2036	0.2%	25,936	55	1,019	25,936
2037	0.2%	25,991	55	1,074	25,991
2038	0.2%	26,046	55	1,129	26,046

**Notes**

- [1] - 172 Gallons per day per full time EDU based on the 2010 BBARWA Sewer Master Plan; page 3-10  
 [2] - Average daily flow at plant of 2.45 mgd based on the 2010 BBARWA Sewer Master Plan; page 3-7  
 [3] - EDUs based on 12/31/16 count  
 [4] - Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd / EDU

Year	Equipment List	Original Cost	Less Accum. Depreciation	Book Value	2017 Cost <sup>(1)</sup>	Connection Fee Eligible (%) <sup>(2)</sup>	Connection Fee Eligible (\$)
<b>Effluent Disposal Assets</b>							
2002	Pipeline	\$84,689	\$32,641	\$52,048	\$85,789	100.0%	\$85,789
1979	Pipeline	1,247,874	1,247,874	0	0	100.0%	0
1987	Pipeline	42,063	31,201	10,862	26,239	100.0%	26,239
1989	Pipeline	54,565	38,196	16,369	37,843	100.0%	37,843
1992	Pipeline	149,542	94,713	54,829	117,232	100.0%	117,232
2009	Pipeline	220,051	44,010	176,041	220,361	100.0%	220,361
1979	Piping	24,500	18,620	5,880	20,256	100.0%	20,256
1989	Piping	262,500	183,758	78,743	182,037	100.0%	182,037
1979	Material, Installatio	100,600	100,600	0	0	0.0%	0
1984	Irrigation Wheel Lin	16,767	16,484	283	740	0.0%	0
1987	Sprinkler System	9,922	8,267	1,655	3,998	100.0%	3,998
1988	Irrigation System	45,142	36,873	8,270	19,582	100.0%	19,582
1989	Sprinkler System	81,275	60,958	20,317	46,969	100.0%	46,969
1989	Pumphouse Encl	24,393	13,275	11,118	25,702	100.0%	25,702
1979	Overflow Structure	8,000	6,080	1,920	6,614	0.0%	0
1979	Control Structure	10,000	7,600	2,400	8,268	0.0%	0
1979	Pond	794,668	754,941	39,727	136,855	100.0%	136,855
1986	Disposal Site Modi	78,000	59,475	18,525	46,055	100.0%	46,055
1989	Standby Pipe Mod	14,734	10,322	4,411	10,198	0.0%	0
1992	Monitoring Wells	112,643	93,559	19,084	40,804	100.0%	40,804
1979	Reservoir	81,400	61,864	19,536	67,300	0.0%	0
1989	Install Pump, etc.	20,300	10,665	9,636	22,275	100.0%	22,275
1986	Pipeline	5,484	3,131	2,353	5,851	100.0%	5,851
1986	Pipeline	1,183,432	902,400	281,032	698,673	100.0%	698,673
2009	Outfall Line	78,078	14,965	63,113	79,002	100.0%	79,002
2010	Monitoring Wells R	12,815	2,990	9,825	11,871	0.0%	0
2017	Less Disposal and Transfers	(50,177)	(27,070)	(23,107)	(23,107)	100.0%	(23,107)
<b>Total Effluent Disposal Assets</b>		<b>\$4,713,259</b>	<b>\$3,828,388</b>	<b>\$884,871</b>	<b>\$1,897,407</b>		<b>\$1,792,417</b>
<b>Flow Measuring Devices</b>							
2008	Auxiliary Flow Met	\$17,524	\$2,629	\$14,895	\$18,842	0.0%	\$0
1996	Effluent Flow Mete	5,010	4,732	278	524	0.0%	0
2002	RAS Flow Meter	8,259	4,542	3,716	6,126	0.0%	0
2002	WAS Meter	5,350	2,913	2,437	4,016	0.0%	0
1997	Flow Meter CSD/C	8,753	7,637	1,116	2,061	0.0%	0
2006	Portable Flow Mete	55,915	18,328	37,587	51,546	100.0%	51,546
2001	2 - 14" ABB Magm	20,818	19,257	1,561	2,642	0.0%	0
2004	BB Flow Meter and	29,204	10,871	18,333	27,135	0.0%	0
2007	CSA Flow Meter	10,157	1,806	8,352	11,168	0.0%	0
2006	Portable Flow Mete	31,951	21,124	10,828	14,849	100.0%	14,849
2017	Total Influent Flow	20,753	173	20,580	20,580	100.0%	20,580
<b>Total Flow Measuring Devices</b>		<b>\$213,693</b>	<b>\$94,011</b>	<b>\$119,682</b>	<b>\$159,488</b>		<b>\$86,975</b>

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)
<b>Land</b>							
1979	CSD Original Trea	\$78,641	\$0	\$78,641	\$270,911	100.0%	\$270,911
1979	BBLSD Original Tr	23,557	0	23,557	81,152	100.0%	81,152
1979	Lucerne Valley 320	399,000	0	399,000	1,374,517	100.0%	1,374,517
1992	120 Palomino Driv	90,280	0	90,280	193,031	100.0%	193,031
1994	121 Palomino Driv	151,578	0	151,578	301,463	100.0%	301,463
2001	Landscape 122 Pa	19,870	0	19,870	33,635	100.0%	33,635
2002	Landscape 122 Pa	13,447	0	13,447	22,164	100.0%	22,164
2004	Landscape 121 Pa	18,750	0	18,750	27,752	100.0%	27,752
2004	Landscape Admin	21,700	0	21,700	32,118	100.0%	32,118
	<b>Total Land</b>	<b>\$816,823</b>	<b>\$0</b>	<b>\$816,823</b>	<b>\$2,336,742</b>		<b>\$2,336,742</b>
<b>Treatment Plant</b>							
1986	Valves and Gates	\$18,000	\$13,725	\$4,275	\$10,628	100.0%	\$10,628
1986	Painting, Coating, R	8,300	8,300	0	0	100.0%	0
1986	Structure	139,500	85,095	54,405	135,256	100.0%	135,256
1979	Painting	5,300	5,300	0	0	100.0%	0
1986	Protective Coating	800	800	0	0	100.0%	0
2006	Roof MPB	15,130	6,758	8,372	11,481	100.0%	11,481
2007	Concrete Floor mp	29,659	14,459	15,200	20,325	100.0%	20,325
1979	Structure mpb	47,793	36,323	11,470	39,515	100.0%	39,515
1979	Structure BC	235,921	235,921	0	0	0.0%	0
1979	Structure BC	109,046	82,876	26,170	90,154	0.0%	0
2008	Structure Sand and	6,547	1,189	5,357	6,777	100.0%	6,777
1999	Memcor Filter	25,000	13,750	11,250	19,862	100.0%	19,862
2001	UV Disinfection Un	15,910	7,095	8,815	14,922	100.0%	14,922
1979	Structure HEADWO	165,910	128,484	37,425	128,927	100.0%	128,927
1979	Structure OAC	223,141	188,430	34,711	119,576	100.0%	119,576
2000	Building Expansion	338,137	126,488	211,648	364,394	100.0%	364,394
2002	Office Conversion	13,218	4,431	8,787	14,484	100.0%	14,484
1994	Storage Bins	8,453	7,636	817	1,625	0.0%	0
2003	Operations Buildin	59,365	16,622	42,743	68,176	100.0%	68,176
1994	Waukesha Building	74,474	43,755	30,719	61,096	100.0%	61,096
2003	Other	67,114	19,092	48,022	76,597	100.0%	76,597
2004	Retention	30,534	15,470	15,063	22,295	100.0%	22,295
2008	Building	181,009	38,197	142,812	180,650	100.0%	180,650
1986	Building	304,311	193,006	111,304	276,713	100.0%	276,713
1986	Roofing, Sheet Me	12,400	11,780	620	1,541	100.0%	1,541
1986	Polymer Sys	35,000	35,000	0	0	100.0%	0
1979	Metal Grate	6,100	4,636	1,464	5,043	100.0%	5,043
1986	Metal Work, Concr	68,020	41,492	26,528	65,951	100.0%	65,951
1991	Cover	12,687	6,472	6,215	13,752	100.0%	13,752
2007	Building and Doors	285,109	54,646	230,463	308,169	100.0%	308,169
2007	HVAC, Ducting	108,399	41,553	66,846	89,385	100.0%	89,385
1979	Piping High Pressu	675,599	641,940	33,659	115,952	100.0%	115,952
1986	Piping 60 Years	520,851	397,160	123,691	307,508	100.0%	307,508
1986	Auxiliary Pump 3 -	16,500	14,379	2,121	5,274	0.0%	0
2001	Auxiliary Pump 2 -	10,653	10,653	0	0	0.0%	0
2007	Painting	27,000	8,625	18,375	24,571	100.0%	24,571
2007	Plumbing	26,004	12,460	13,544	18,111	0.0%	0
2007	Signs	965	617	349	466	100.0%	466
2007	Piping - Cannibal B	76,000	14,567	61,433	82,147	100.0%	82,147
2006	Auxiliary Pump 1 -	8,739	2,871	5,868	8,047	100.0%	8,047
1979	Effluent Pump 3 - 1	4,756	4,756	0	0	0.0%	0
1979	Effluent Pump 5 - 1	6,417	6,417	0	0	0.0%	0
1996	Effluent Pump 2 - 4	7,865	7,865	0	0	0.0%	0

Year	Equipment List	Original Cost	Less Accum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)
2004	RAS Pump 1 - 7.5	15,561	6,570	8,991	13,307	0.0%	0
2004	RAS Pump 2 - 7.5	15,561	13,573	1,988	2,943	0.0%	0
2004	RAS Pump 3 - 7.5	15,561	6,570	8,991	13,307	0.0%	0
2004	RAS Pump 4 - 7.5	13,921	11,988	1,933	2,861	0.0%	0
2006	Effluent Pump 1 - 4	11,591	8,242	3,348	4,592	0.0%	0
2006	RAS Pump 1 - 7.5	10,177	7,407	2,770	3,799	0.0%	0
2006	RAS Pump 2 - 7.5	10,177	7,407	2,770	3,799	0.0%	0
2006	RAS Pump 3 - 7.5	10,177	7,407	2,770	3,799	0.0%	0
2006	RAS Pump 4 - 7.5	10,177	7,407	2,770	3,799	0.0%	0
2007	Effluent Pump 4 - 1	17,280	11,136	6,144	8,216	0.0%	0
2008	Effluent Pump 6 - 1	24,575	14,063	10,513	13,298	0.0%	0
1986	Scum and Tank Dr	6,500	5,669	831	2,065	0.0%	0
2007	In-Plant Sewer Pum	5,163	3,528	1,635	2,186	0.0%	0
2008	In-Plant Sewer Pum	5,207	3,153	2,054	2,598	0.0%	0
2005	Belt Feed Pump - 3	12,384	9,701	2,683	3,796	0.0%	0
2007	Submersible Pump	2,748	1,603	1,145	1,531	0.0%	0
1979	Flash Mixer	5,500	3,410	2,090	7,200	0.0%	0
1979	Clarifier 1	90,150	68,514	21,636	74,534	0.0%	0
1979	Clarifier 2	90,150	68,514	21,636	74,534	0.0%	0
1986	Gear Reducer, Driv	51,000	51,000	0	0	0.0%	0
1979	Bar Screen, Grit Ae	50,141	47,645	2,496	8,597	0.0%	0
1988	Carbon Tower	75,795	54,953	20,842	49,355	0.0%	0
1998	Grit Washer	28,514	26,496	2,018	3,644	0.0%	0
2007	Wash Press	85,969	41,552	44,417	59,394	0.0%	0
1979	Original Equipmen	171,829	130,590	41,239	142,064	0.0%	0
1993	Cover	120,694	58,537	62,157	126,616	100.0%	126,616
1990	Sandblast, Paint C	21,071	18,613	2,458	5,567	100.0%	5,567
1979	Original Equipmen	171,029	129,982	41,047	141,403	0.0%	0
1993	Cover	120,694	58,537	62,157	126,615	100.0%	126,615
1990	Sandblast, Paint C	21,071	18,613	2,458	5,567	100.0%	5,567
1986	Original Equipmen	573,450	349,806	223,644	556,001	100.0%	556,001
1993	Cover	120,694	58,537	62,157	126,615	100.0%	126,615
1986	Valves and Gates	5,207	3,970	1,237	3,075	100.0%	3,075
1979	Original Equipmen	255,055	193,874	61,181	210,764	100.0%	210,764
1979	Painting, Ball Chec	5,843	5,843	0	0	100.0%	0
1991	Bearings	7,559	6,425	1,134	2,508	100.0%	2,508
1979	Brush Aerator Pad	73,625	73,625	0	0	0.0%	0
1979	Original Equipmen	302,905	230,208	72,697	250,435	100.0%	250,435
1979	Painting, Ball Chec	5,843	5,843	0	0	100.0%	0
1991	Bearings	7,559	6,426	1,133	2,508	100.0%	2,508
1979	Brush Aerator Pad	73,625	73,625	0	0	0.0%	0
1997	Original Equipmen	1,819,909	727,964	1,091,945	2,016,212	100.0%	2,016,212
1999	Shaft Mount Reduc	8,127	8,127	0	0	0.0%	0
1979	Original Structure D	8,652	8,652	0	0	100.0%	0
2002	Asphalt Drying Bed	38,025	16,731	21,294	35,098	100.0%	35,098
1986	Belt Filter Press Dr	15,500	15,500	0	0	0.0%	0
1986	Belt Filter Press Fr	46,500	46,500	0	0	100.0%	0
1991	Sludge Hopper Mo	18,768	15,957	2,811	6,219	100.0%	6,219
1999	Arison 560 Polyme	9,237	9,237	0	0	0.0%	0
1999	Polyblend Unit Bel	5,839	5,839	0	0	0.0%	0
2001	Polyblend Unit DA	6,117	6,117	0	0	0.0%	0
2000	Belt Press Rollers	44,867	24,927	19,940	34,331	100.0%	34,331
2005	Sludge Belt Conve	26,852	20,885	5,967	8,441	0.0%	0
2007	Polyblend Unit Bac	6,568	4,488	2,080	2,781	0.0%	0
1994	Polyblend Unit Bac	5,607	5,607	0	0	0.0%	0
1986	Dissolved Air Flota	81,682	49,832	31,851	79,184	100.0%	79,184
2007	Cannibal Equip Pro	1,649,000	316,058	1,332,942	1,782,375	100.0%	1,782,375



Year	Equipment List	Original Cost	Less Accum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)
2007	Cannibal Equip Ot	713,854	342,055	371,799	497,160	62.4%	310,228
2007	Cannibal Interchan	847,000	162,342	684,658	915,507	100.0%	915,507
2007	Cannibal Interchan	531,659	254,753	276,906	370,271	100.0%	370,271
2004	Solar Bee	19,826	16,742	3,084	4,565	0.0%	0
2000	Hot Water Circulat	16,150	10,229	5,921	10,194	100.0%	10,194
1987	Electric Hoist	8,865	6,545	2,320	5,605	100.0%	5,605
2006	Natural Gas Cataly	10,181	10,181	0	0	0.0%	0
1996	Bar Grating	5,054	5,054	0	0	100.0%	0
2003	Gear Reducer	8,708	2,976	5,732	9,142	100.0%	9,142
1999	Self Support Tank	5,962	4,213	1,749	3,088	100.0%	3,088
2003	Docks Horseshoe	15,341	10,867	4,474	7,137	0.0%	0
2003	Storage Ponds Mo	1,174,305	817,120	357,184	569,722	100.0%	569,722
2004	Emissions Analyze	8,077	4,847	3,230	4,781	100.0%	4,781
2005	Emissions Tester	11,669	11,669	0	0	0.0%	0
2009	AQMD Certified Em	10,753	8,512	2,240	2,804	0.0%	0
2010	Effluent Pump 5 - 1	18,582	18,582	0	0	100.0%	0
2010	RAS Pump 1 - 7.5	3,896	3,896	0	0	100.0%	0
2010	RAS Pump 4 - 7.5	3,811	3,811	0	0	100.0%	0
2010	Effluent Pump 4 - 1	8,596	8,596	0	0	100.0%	0
2010	LEB Plans and Spe	2,977	90	2,887	3,488	100.0%	3,488
2010	Sludge Building Ro	16,293	4,399	11,894	14,371	100.0%	14,371
2010	Siding	7,500	1,950	5,550	6,706	100.0%	6,706
2010	RAS Pump 2 Repa	4,234	1,905	2,329	2,814	100.0%	2,814
2010	RAS Pump 3 Repa	5,304	2,387	2,917	3,525	100.0%	3,525
2010	Railing Powder Co	34,825	5,775	29,050	35,100	100.0%	35,100
2013	Effluent Pump #3 R	13,960	8,642	5,318	5,950	100.0%	5,950
2014	Rotor	78,312	13,378	64,934	70,691	100.0%	70,691
2014	Block Wall (entran	6,500	412	6,088	6,628	100.0%	6,628
2015	Polyblend Unit Bel	9,658	1,341	8,316	8,652	100.0%	8,652
2014	Piping Covered Dr	96,060	4,670	91,390	99,494	100.0%	99,494
2014	Electrical Generic a	30,085	2,925	27,160	29,568	100.0%	29,568
2014	Heat Exchangers	116,598	17,004	99,594	108,424	100.0%	108,424
2014	Pump Skit	25,487	3,717	21,770	23,700	100.0%	23,700
2014	Professional Servic	155,478	4,581	150,898	164,277	100.0%	164,277
2014	Contractor Service	373,689	11,009	362,679	394,837	100.0%	394,837
2014	Building, Wall Shee	656,310	19,336	636,974	693,453	100.0%	693,453
2014	Interior Coating Co	51,000	9,917	41,083	44,726	100.0%	44,726
2014	Windows	19,435	2,834	16,601	18,073	100.0%	18,073
2014	Fans	12,874	1,877	10,996	11,971	100.0%	11,971
2014	Flooring, Footings,	364,350	10,734	353,616	384,970	100.0%	384,970
2014	Capitalized Interes	47,145	1,389	45,756	49,813	100.0%	49,813
2014	Skylights	14,668	2,139	12,529	13,640	100.0%	13,640
2014	Man Doors	8,070	1,569	6,501	7,077	100.0%	7,077
2014	3 Coiling Doors	13,108	1,857	11,251	12,248	100.0%	12,248
2014	3 Coiling Doors	13,108	1,912	11,196	12,189	100.0%	12,189
2017	3 Coiling Doors	16,952	71	16,881	16,881	100.0%	16,881
2016	Shaft Mount Reduc	17,798	1,187	16,612	17,063	100.0%	17,063
2016	Submersible Pump	9,864	548	9,316	9,569	100.0%	9,569
2017	RAS Pump #3 Reb	6,978	0	6,978	6,978	100.0%	6,978
2017	Effluent Pump 5 RE	7,214	429	6,784	6,784	100.0%	6,784
2016	Wash Press	79,462	4,635	74,827	76,859	100.0%	76,859
2016	Pro Easy Analyzer	13,534	902	12,632	12,975	100.0%	12,975
2016	Polyblend Polymer	8,430	422	8,009	8,226	100.0%	8,226
2017	Less disposals and transfers	(417,189)	(286,287)	(130,902)	(130,902)	100.0%	(130,902)
<b>Total Treatment Plant</b>		<b>\$15,886,976</b>	<b>\$7,366,718</b>	<b>\$8,520,258</b>	<b>\$13,387,694</b>		<b>\$12,413,248</b>

Year	Equipment List	Original Cost	Less Accum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)	
<b>Power Generation</b>								
2003	Waukesha	\$535,425	\$149,919	\$385,506	\$614,897	100.0%	\$614,897	
2004	Waukesha Retenti	30,534	6,921	23,613	34,949	100.0%	34,949	
2008	Cummins	737,132	68,799	668,333	845,408	100.0%	845,408	
2008	Cummins Retentio	16,881	1,576	15,305	19,360	100.0%	19,360	
2008	Cummins Electric a	16,570	967	15,604	19,738	100.0%	19,738	
1979	Diesel Engine Gen	45,500	45,500	0	0	100.0%	0	
2009	Waukesha Rebuild	114,502	3,053	111,448	139,506	100.0%	139,506	
2014	Cummins Generat	121,125	50,469	70,656	76,921	100.0%	76,921	
2016	Waukesha Rebuild	241,064	28,459	212,605	218,379	100.0%	218,379	
	<b>Total Power Generation</b>	<b>\$1,858,731</b>	<b>\$355,662</b>	<b>\$1,503,069</b>	<b>\$1,969,157</b>		<b>\$1,969,157</b>	
	<b>Total Existing Treatment</b>	<b>\$23,489,482</b>	<b>\$11,644,779</b>	<b>\$11,844,703</b>	<b>\$19,750,488</b>		<b>\$18,598,539</b>	
<b>Capital Contributions Credit</b>								
1995	Grant Funding [3]	\$750,000	\$0	\$750,000	\$1,468,597	100.0%	(\$1,468,597)	
	<b>Total Contributions Credit</b>	<b>\$750,000</b>	<b>\$0</b>	<b>\$750,000</b>	<b>\$1,468,597</b>		<b>(\$1,468,597)</b>	
2017	Less: Existing Long-Term Debt Principal	\$2,316,654	\$0	\$2,316,654	\$2,316,654	100.0%	(\$2,316,654)	
	<b>Total Net Existing Treatment</b>	<b>\$20,422,828</b>	<b>\$11,644,779</b>	<b>\$8,778,049</b>	<b>\$15,965,237</b>		<b>\$14,813,288</b>	
	<b>Total EDUs at Plant Capacity [4]</b>						<b>28,430</b> <i>Buildout EDUs</i>	
	<b>Existing Treatment - \$/EDU</b>						<b>\$521.04</b>	
		<b>FY 2018 - FY 2023</b>		<b>FY 2024 - FY 2038</b>				
		<b>Total Project</b>	<b>Connection Fee Eligible</b>		<b>Total Project</b>	<b>Connection Fee Eligible</b>		<b>Total</b>
			<b>%</b>	<b>\$</b>		<b>%</b>	<b>\$</b>	
	<b>Future Treatment <sup>[5]</sup></b>	\$3,717,014	44.9%	\$1,669,634	\$11,947,210	70.9%	\$8,471,532	\$10,141,166
	<b>Net Future EDU's (2018 - Buildout)</b>							<b>3,513</b>
	<b>Future Treatment Plant - \$/EDU</b>							<b>\$2,886.56</b>
	<b>Total Treatment Connection Fee per EDU</b>							<b>\$3,407.60</b>

**Notes**

- [1] - Based on ENR 20 City Average December Values
- [2] - Values other than 100% represent existing assets replaced with future projects for the capital planning period
- [3] - Third ditch HUD grant funding in 1995. \$750,000 plus BBARWA match for a \$1.5 million backup treatment facility
- [4] - Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU
- [5] - Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>(1)</sup>	Connection Fee Eligible (%) <sup>(2)</sup>	Connection Fee Eligible (\$)
<b>Interceptor System</b>							
1979	LPS Structure	\$435,635	\$435,635	\$0	\$0	0.0%	\$0
1992	Wet Well Building L	18,000	12,200	5,800	12,401	100.0%	12,401
1979	NSPS 1	106,657	81,059	25,598	88,182	100.0%	88,182
1979	NSPS 2	113,657	86,379	27,278	93,969	100.0%	93,969
1979	NSPS 3	129,657	98,539	31,118	107,198	100.0%	107,198
1997	Submersible Pump	9,497	9,497	0	0	0.0%	0
2000	Submersible Sewa	14,576	6,235	8,341	14,360	0.0%	0
2000	Submersible Pump	14,071	11,491	2,579	4,441	0.0%	0
2006	Submersible Pump	14,947	6,477	8,470	11,616	0.0%	0
2008	Submersible Pump	43,244	12,733	30,511	38,595	0.0%	0
1996	Back-up Pump Fai	7,089	7,089	0	0	100.0%	0
2007	Force Main-LPS C	42,969	7,281	35,688	47,721	100.0%	47,721
1979	Force Main Ductile	1,253,383	1,190,714	62,669	215,889	100.0%	215,889
2000	N.S. Air Release V	34,789	14,568	20,221	34,815	100.0%	34,815
2001	Force Main Palom	164,204	63,971	100,233	169,669	100.0%	169,669
1979	North Shore	108,969	103,540	5,429	18,702	100.0%	18,702
1979	Main Trunk	172,128	164,633	7,495	25,821	0.0%	0
2007	Main Trunk Sliplini	176,974	48,667	128,307	171,568	100.0%	171,568
2010	LPS Plans, Specs,	3,936	291	3,645	4,404	100.0%	4,404
2010	Main Trunk Manho	47,666	4,687	42,979	51,930	100.0%	51,930
2011	Professional Servic	127,738	7,849	119,889	141,391	100.0%	141,391
1979	Main Trunk (Manh	13,178	10,325	2,852	9,826	100.0%	9,826
2012	Electrical Generic +	28,742	6,707	22,036	25,325	100.0%	25,325
2012	Electrical Distributi	11,840	2,763	9,077	10,432	100.0%	10,432
2012	Electrical Equip MC	77,365	18,052	59,313	68,167	100.0%	68,167
2012	Limit Switches, Pul	4,985	1,163	3,822	4,392	100.0%	4,392
2012	Professional Servic	3,195	746	2,450	2,815	100.0%	2,815
2012	SCADA Electrical	17,828	4,160	13,668	15,708	100.0%	15,708
2012	Generator Generic	844	197	647	744	100.0%	744
2012	Access Vault	2,228	260	1,968	2,262	100.0%	2,262
2012	Check Valves	19,839	3,086	16,753	19,254	100.0%	19,254
2012	Ductile Iron	20,565	2,399	18,166	20,878	100.0%	20,878
2012	Generic Pipeline	10,872	1,268	9,604	11,037	100.0%	11,037
2012	Generic PVC Pipel	20,225	1,258	18,966	21,798	100.0%	21,798
2012	Pipeline Kicker	876	41	835	959	100.0%	959
2012	PVC Pipeline	35,855	2,231	33,624	38,643	100.0%	38,643
2012	Valving	4,325	269	4,056	4,661	100.0%	4,661
2012	Vaults, Manholes	4,695	292	4,403	5,060	100.0%	5,060
2012	Generic	35,550	11,060	24,490	28,146	100.0%	28,146
2012	Concrete Pads, ba	12,000	3,733	8,267	9,501	100.0%	9,501
2012	Pump 1 and 2, Flyg	63,011	19,603	43,408	49,887	100.0%	49,887
2012	Pump 3, Flygt 150	64,799	20,160	44,640	51,303	100.0%	51,303
2012	Ceiling Drywall	1,680	784	896	1,030	100.0%	1,030
2012	Wet Well, Dry Well	399,000	18,808	380,192	436,946	100.0%	436,946
2012	Land Prep, Cleanu	78,193	3,686	74,507	85,629	100.0%	85,629
2012	Generic	11,001	519	10,483	12,048	100.0%	12,048
2012	Gutters	550	257	293	337	100.0%	337
2012	Insulation	470	110	360	414	100.0%	414
2012	Masonry, Concrete	18,184	857	17,326	19,913	100.0%	19,913
2012	Painting	1,087	1,014	72	83	100.0%	83
2012	Professional Servic	92,561	4,363	88,198	101,364	100.0%	101,364
2012	Roofing	6,098	1,423	4,675	5,373	100.0%	5,373
2012	Skylights	718	167	550	633	100.0%	633
2012	Steel Doors	2,740	639	2,101	2,414	100.0%	2,414
2012	Odor Control Equip	8,541	3,986	4,555	5,235	100.0%	5,235
2012	Land Prep, Cleanu	4,315	203	4,111	4,725	100.0%	4,725
2012	Electrical Capitaliz	9,821	2,292	7,530	8,654	100.0%	8,654
2012	Installation of Pum	7,554	2,350	5,204	5,981	100.0%	5,981
2012	Move Generators C	4,315	1,007	3,308	3,802	100.0%	3,802
2012	Pipeline Capitalize	24,687	2,880	21,807	25,062	100.0%	25,062
2012	Roof Capitalized L	4,178	975	3,203	3,682	100.0%	3,682
2012	Treatment Equip C	7,554	3,525	4,029	4,630	100.0%	4,630
2012	Capitalized Labor G	18,305	863	17,442	20,045	100.0%	20,045
2013	Landscaping and I	15,798	3,862	11,936	13,354	100.0%	13,354
2014	Grout Creek Pipeli	23,500	1,714	21,786	23,718	100.0%	23,718
<b>Total Interceptor Plant</b>		<b>\$4,233,451</b>	<b>\$2,539,594</b>	<b>\$1,693,857</b>	<b>\$2,438,543</b>		<b>\$2,343,710</b>

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)
<b>Other Equipment</b>							
2007	Electrical	\$118,841	\$28,472	\$90,369	\$120,839	100.0%	\$120,839
1986	Auxiliary Instrumen	3,000	3,000	0	0	100.0%	0
2008	SCADA	27,489	15,730	11,759	14,875	0.0%	0
2001	Symbio	20,563	20,563	0	0	0.0%	0
2001	Symbio Engineerin	15,788	8,508	7,280	12,323	0.0%	0
2008	Symbio, Multiparam	6,631	3,011	3,619	4,578	0.0%	0
2009	SymbioMultiparam	976	390	585	733	0.0%	0
2001	Symbio Entineering	15,788	8,508	7,280	12,323	0.0%	0
2008	Symbio	6,631	3,011	3,619	4,578	0.0%	0
2009	Symbio	976	390	585	733	0.0%	0
2001	Symbio	19,347	19,347	0	0	0.0%	0
2009	SymbioVFD and K	1,659	1,659	0	0	0.0%	0
2009	SCADA	14,183	8,053	6,131	7,674	0.0%	0
2009	Analog Input Modu	2,846	1,518	1,328	1,662	0.0%	0
2007	PH and ORP Sens	2,956	2,389	567	758	0.0%	0
2007	Display Equipment	4,578	2,467	2,111	2,823	0.0%	0
1979	Telemetry	5,000	5,000	0	0	0.0%	0
1997	SCADA	11,591	9,854	1,737	3,206	0.0%	0
1997	SCADA	13,583	11,246	2,337	4,315	0.0%	0
1998	SCADA	13,384	10,335	3,049	5,504	0.0%	0
1997	SCADA	13,583	11,246	2,338	4,316	0.0%	0
1998	SCADA	13,384	10,335	3,049	5,504	0.0%	0
1997	SCADA	13,583	11,246	2,337	4,315	0.0%	0
1998	SCADA	13,384	10,335	3,049	5,504	0.0%	0
2005	Radio Repeater	13,218	13,218	0	0	0.0%	0
2004	Security Admin	26,625	26,625	0	0	100.0%	0
2005	Security Admin	15,850	15,850	0	0	100.0%	0
2006	Security OAC	14,400	14,400	0	0	100.0%	0
2007	Security OAC	5,813	5,813	0	0	100.0%	0
1979	Electric Lighting	21,900	20,805	1,095	3,772	100.0%	3,772
1990	Security Lights	5,678	5,016	662	1,500	100.0%	1,500
1991	Security Lights	9,562	8,130	1,432	3,168	100.0%	3,168
1999	Front Security Gate	6,497	6,389	108	191	0.0%	0
2008	Fencing	135,274	24,349	110,925	140,314	100.0%	140,314
2008	Fencing	119,182	20,658	98,523	124,627	100.0%	124,627
2005	Surveillance Syste	22,828	22,828	0	0	0.0%	0
1979	Fencing	85,300	83,548	1,752	6,035	100.0%	6,035
2002	Stand Pipe	31,728	11,633	20,094	33,120	100.0%	33,120
2008	Emergency Backu	52,599	23,012	29,587	37,426	0.0%	0
2005	Emergency Bypass	36,664	21,540	15,124	21,394	0.0%	0
2007	Soft Starts	15,530	3,883	11,648	15,575	100.0%	15,575
1986	Electrical	33,869	25,830	8,039	19,987	100.0%	19,987
1979	Switchgear	18,300	17,397	903	3,111	100.0%	3,111
1986	Electrical Revision	4,162	3,174	988	2,457	100.0%	2,457
1979	General Electric	24,655	23,422	1,233	4,246	100.0%	4,246
1979	General Electric	24,655	23,422	1,233	4,246	100.0%	4,246
1986	General Electric	16,789	12,806	3,983	9,901	100.0%	9,901
1979	Rough and Finish	8,200	7,814	386	1,330	100.0%	1,330
2008	VFD Rotor 1 Ditch	9,928	6,233	3,695	4,675	0.0%	0
1979	Rough and Finish	8,200	7,814	386	1,330	100.0%	1,330
2001	Reverse Starters E	5,250	5,250	0	0	100.0%	0
2001	Reverse Starters E	5,250	5,250	0	0	100.0%	0
2009	VFD Rotor 7 Ditch	10,743	10,743	0	0	0.0%	0
1979	Rough and Finish	95,400	90,654	4,746	16,350	100.0%	16,350
1979	Duct Banks, Condu	116,534	110,708	5,827	20,072	100.0%	20,072
1998	Main Circuit Break	10,853	5,110	5,743	10,370	100.0%	10,370
2003	Demand Meter	8,709	8,371	338	539	100.0%	539
1986	Electrical, Wire, Te	68,937	52,574	16,363	40,680	100.0%	40,680
1986	Belt Filter Press Co	38,750	38,750	0	0	100.0%	0
1986	Instrumentation	12,000	12,000	0	0	100.0%	0
1979	General Electric	5,000	4,750	250	861	100.0%	861
1989	General Electric	25,800	18,060	7,740	17,893	100.0%	17,893
1979	Motor Control Cen	25,400	25,400	0	0	100.0%	0
1998	40 HP VFD - LPS	13,476	6,251	7,225	13,045	0.0%	0
2003	Transfer Switch	10,173	2,437	7,736	12,339	100.0%	12,339
2001	Ground Fault Indic	14,445	14,445	0	0	100.0%	0
2007	VFD Soft Starts - N	11,767	7,583	4,184	5,594	0.0%	0
2008	Copier	13,469	13,469	0	0	100.0%	0

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible (%) <sup>[2]</sup>	Connection Fee Eligible (\$)
1979	Two Fume Hoods	24,000	24,000	0	0	0.0%	0
1998	Ion Analyzer	26,614	20,108	6,506	11,747	0.0%	0
2005	TOC Analyzer	31,652	31,652	0	0	100.0%	0
2008	Freas Oven	6,308	2,313	3,995	5,054	100.0%	5,054
2001	SCADA	13,084	13,084	0	0	0.0%	0
2001	Symbio Engineerin	15,788	8,508	7,280	12,323	0.0%	0
2008	Symbio	6,631	3,011	3,619	4,578	0.0%	0
2009	Symbio	976	390	585	733	0.0%	0
2009	Equipment and Co	28,248	14,281	13,967	17,484	100.0%	17,484
2010	Admin Building Tra	61,099	44,806	16,293	19,686	100.0%	19,686
2010	Ops Building Secu	10,490	7,605	2,885	3,486	0.0%	0
2009	Ion Analyzer	34,926	17,851	17,075	21,374	0.0%	0
2008	SCADA	8,728	8,728	0	0	0.0%	0
2008	SCADA	1,595	239	1,355	1,715	0.0%	0
2013	Security Gate - LPS	16,241	3,970	12,271	13,729	100.0%	13,729
2013	Security Gate - Tre	14,800	3,618	11,182	12,511	100.0%	12,511
2013	Copier	13,842	10,612	3,230	3,614	100.0%	3,614
2014	Avaya Telephone S	21,180	6,354	14,826	16,141	100.0%	16,141
2015	PLC SCADA Cann	22,288	5,882	16,407	17,068	100.0%	17,068
2015	Pipeline Detection	5,920	1,550	4,370	4,546	100.0%	4,546
2016	Laboratory Heating	13,100	873	12,227	12,559	100.0%	12,559
2016	Ethernet Routing S	4,067	533	3,535	3,631	100.0%	3,631
2017	Surveillance Equip	3,693	92	3,601	3,601	100.0%	3,601
2017	Surveillance Came	2,205	55	2,150	2,150	100.0%	2,150
2017	Surveillance Came	681	17	664	664	100.0%	664
2017	Surveillance Came	497	12	485	485	100.0%	485
2017	Surveillance POE S	15,272	382	14,890	14,890	100.0%	14,890
2017	Less disposals and transfers	(363,481)	(285,527)	(77,955)	(77,955)	100.0%	(77,955)
<b>Total Other Equipment</b>		<b>\$1,659,545</b>	<b>\$1,039,030</b>	<b>\$620,516</b>	<b>\$918,523</b>		<b>\$684,518</b>
<b>Total Existing Collection Plant</b>		<b>\$5,892,996</b>	<b>\$3,578,624</b>	<b>\$2,314,372</b>	<b>\$3,357,066</b>		<b>\$3,028,228</b>
<b>2017 Less: Existing Long-Term Debt Principal</b>		<b>\$452,658</b>	<b>\$0</b>	<b>\$452,658</b>	<b>\$452,658</b>	<b>100.0%</b>	<b>(\$452,658)</b>
<b>Total Net Existing Collection Plant</b>		<b>\$5,440,338</b>	<b>\$3,578,624</b>	<b>\$1,861,714</b>	<b>\$2,904,408</b>		<b>\$2,575,570</b>
<b>Total EDUs at Plant Capacity <sup>[3]</sup></b>							<b>28,430 Buildout EDUs</b>
<b>Existing Collection Connection Fee per EDU</b>							<b>\$90.59</b>

	FY 2018 - FY 2023			FY 2024 - FY 2038			Total
	Total Project	Connection Fee Eligible %	Connection Fee Eligible \$	Total Project	Connection Fee Eligible %	Connection Fee Eligible \$	
<b>Future Collection <sup>[4]</sup></b>	\$2,439,414	38.7%	\$942,929	\$3,600,334	25.5%	\$919,847	\$1,862,776
<b>Net Future EDU's (2018 - Buildout)</b>							<b>3,513</b>
<b>Future Collection Connection Fee per EDU</b>							<b>\$530.22</b>
<b>Total Collection Connection Fee per EDU</b>							<b>\$620.81</b>

**Notes**

- [1] - Based on ENR 20 City Average December Values
- [2] - Values other than 100% represent existing assets replaced with future projects for the capital planning period
- [3] - Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU
- [4] - Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>(1)</sup>	Connection Fee Eligible	Connection Fee Eligible
<b>Administration Building</b>							
2004	Original Structure	\$1,571,995	\$514,173	\$1,057,821	\$1,565,679	100.0%	\$1,565,679
2004	Grading, Roofing, P	165,850	72,329	93,521	138,420	100.0%	138,420
2004	Skylights	8,000	4,187	3,813	5,644	100.0%	5,644
2004	Irrigation, Signs, Pr	10,810	10,810	0	0	100.0%	0
2004	HVAC	185,191	96,917	88,274	130,655	100.0%	130,655
2004	HVAC Controls	35,809	17,427	18,382	27,207	100.0%	27,207
2016	HVAC DDC Contro	48,174	4,416	43,758	44,946	100.0%	44,946
2016	HVAC Transducer	4,462	409	4,053	4,163	100.0%	4,163
2016	IT Equipment Room	11,223	381	10,842	11,137	100.0%	11,137
<b>Total Administration Building</b>		<b>\$2,041,514</b>	<b>\$721,049</b>	<b>\$1,320,465</b>	<b>\$1,927,851</b>		<b>\$1,927,851</b>
<b>Other Tangible Plant</b>							
2004	Asphalt and Paving	\$50,186	\$21,888	\$28,298	\$41,884	100.0%	\$41,884
1986	Asphalt and Paving	24,800	24,800	0	0	100.0%	0
2007	Asphalt and Paving	111,235	35,533	75,702	101,226	100.0%	101,226
1986	Asphalt and Paving	1,168	1,168	0	0	100.0%	0
2003	Asphalt and Paving	39,940	18,195	21,745	34,684	100.0%	34,684
2004	Asphalt and Paving	41,249	17,760	23,489	34,766	100.0%	34,766
2006	Asphalt and Paving	8,431	3,021	5,410	7,419	100.0%	7,419
2007	Asphalt and Paving	13,903	4,441	9,462	12,652	100.0%	12,652
2008	Asphalt and Paving	29,498	9,095	20,402	25,808	100.0%	25,808
2008	Asphalt and Paving	108,437	33,352	75,085	94,978	100.0%	94,978
2003	Asphalt and Paving	11,170	3,382	7,788	12,422	100.0%	12,422
2004	Asphalt and Paving	11,700	3,120	8,580	12,699	100.0%	12,699
2003	Asphalt and Paving	9,255	4,244	5,012	7,994	100.0%	7,994
1979	Asphalt and Paving	1,391	1,391	0	0	100.0%	0
1979	Asphalt and Paving	1,391	1,391	0	0	100.0%	0
1979	Asphalt and Paving	1,392	1,392	0	0	100.0%	0
2011	Asphalt (Between	46,427	9,414	37,013	43,651	100.0%	43,651
2013	Asphalt - LPS	42,500	5,549	36,951	41,343	100.0%	41,343
2013	Web Site	16,226	11,899	4,327	4,841	100.0%	4,841
2015	Asphalt Covered D	120,000	14,000	106,000	110,271	100.0%	110,271
2015	Asphalt Seal Coat P	32,490	11,913	20,577	21,406	100.0%	21,406
2015	Asphalt Seal Coat	31,051	10,868	20,183	20,996	100.0%	20,996
<b>Total Transportation Equipment</b>		<b>\$753,839</b>	<b>\$247,816</b>	<b>\$506,023</b>	<b>\$629,042</b>		<b>\$629,042</b>
<b>Studies and Maps</b>							
1996	80-Acre Dike Stud	\$7,484	\$7,484	\$0	\$0	100.0%	\$0
2000	Long Range Facilit	364,981	364,981	0	0	100.0%	0
2003	Capacity Report	49,800	49,800	0	0	100.0%	0
2003	Connection Report	15,000	15,000	0	0	100.0%	0
2004	Compliance Repor	11,993	11,993	0	0	100.0%	0
2004	Sludge Handling	77,895	21,747	56,149	83,106	100.0%	83,106
2007	User Fee Rate Stu	23,141	16,822	6,319	8,449	100.0%	8,449
2008	Waste Disposal Ra	7,072	2,947	4,125	5,218	100.0%	5,218
1995	Outfall Line Plans	15,175	5,627	9,548	18,695	100.0%	18,695
2006	Outfall Line Map	31,507	11,553	19,954	27,365	100.0%	27,365
2013	Arc Flash Study - L	5,640	4,136	1,504	1,683	100.0%	1,683
<b>Total Studies and Maps</b>		<b>\$609,689</b>	<b>\$512,090</b>	<b>\$97,599</b>	<b>\$144,517</b>		<b>\$144,517</b>

Year	Equipment List	Original Cost	Less Acum. Depreciation	Book Value	2017 Cost <sup>[1]</sup>	Connection Fee Eligible	Connection Fee Eligible	
<b>Transportation Equipment</b>								
1991	1989 Ford Dump T	\$22,210	\$22,210	\$0	\$0	100.0%	\$0	
1997	1981 GMC Boom T	5,408	4,619	789	1,456	100.0%	1,456	
1999	1999 Chevrolet Su	37,547	27,535	10,012	17,677	100.0%	17,677	
2001	Utility Cart Electric	8,510	8,510	0	0	100.0%	0	
2002	2001 Ford Ranger	12,616	12,616	0	0	100.0%	0	
2002	2003 Chevrolet Sil	34,543	31,281	3,262	5,377	100.0%	5,377	
2004	2004 Toyota 4-Run	29,674	25,553	4,121	6,100	100.0%	6,100	
2004	2004 Toyota Tund	32,412	27,911	4,501	6,661	100.0%	6,661	
2008	2008 Ford F350	42,140	20,602	21,538	27,244	100.0%	27,244	
2007	Utility Cart	17,942	11,363	6,579	8,797	100.0%	8,797	
1996	1996 TCM Loader	51,263	51,263	0	0	100.0%	0	
2002	Bobcat Backhoe a	47,578	35,486	12,092	19,931	100.0%	19,931	
2006	Bobcat Hammer A	8,482	4,806	3,676	5,041	100.0%	5,041	
2010	Snowblower and P	12,622	4,628	7,994	9,659	100.0%	9,659	
2010	GMC Sierra 2010	35,089	12,281	22,808	27,558	100.0%	27,558	
2011	Loader Volvo L35B	75,364	30,146	45,218	53,328	100.0%	53,328	
2013	Bins (2) 16' x 6'	12,380	5,571	6,809	7,618	100.0%	7,618	
2012	2008 Int'l Truck (SI	100,387	41,131	59,256	68,101	100.0%	68,101	
2015	2015 Dodge Ram	140,602	15,818	124,785	129,813	100.0%	129,813	
2016	Custom Truck Bod	17,481	583	16,898	17,357	100.0%	17,357	
2016	Dodge Ram 3500 T	49,360	3,291	46,069	47,320	100.0%	47,320	
<b>Total Transportation Equipment</b>		<b>\$793,608</b>	<b>\$397,202</b>	<b>\$396,407</b>	<b>\$459,040</b>		<b>\$459,040</b>	
<b>Total Existing General Plant</b>		<b>\$4,198,650</b>	<b>\$1,878,157</b>	<b>\$2,320,493</b>	<b>\$3,160,449</b>		<b>\$3,160,449</b>	
2017 Less: Existing Long-Term Debt Principal		\$453,855	\$0	\$453,855	\$453,855	100.0%	(\$453,855)	
<b>Total Net Existing General Plant</b>		<b>\$3,744,795</b>	<b>\$1,878,157</b>	<b>\$1,866,638</b>	<b>\$2,706,594</b>		<b>\$2,706,594</b>	
<b>Total EDUs at Plant Capacity<sup>[2]</sup></b>							<b>28,430</b>	
<b>Existing General Plant Connection Fee per EDU</b>							<b>\$95.20</b>	
		FY 2018 - FY 2023			FY 2024 - FY 2038			
		Total Project	Connection Fee Eligible		Total Project	Connection Fee Eligible		Total
			%	\$		%	\$	
<b>Future General Plant<sup>[3]</sup></b>		\$1,828,227	3.0%	\$54,814	\$2,334,896	6.5%	\$151,481	<b>\$206,295</b>
<b>Net Future EDU's (2018 - Buildout)</b>								<b>3,513</b>
<b>Future General Plant Connection Fee per EDU</b>							<b>\$58.72</b>	
<b>Total General Plant Connection Fee per EDU</b>							<b>\$153.92</b>	

**Notes**

- [1] - Based on ENR 20 City Average December Values
- [2] - Number of EDUs Based on 4.89 MGD total plant capacity and 172 gpd/EDU
- [3] - Future projects from Big Bear Area Regional Wastewater Agency capital improvement plan

Capital Improvement Projects	Projected (FY)					FY 2018 - FY 2023													FY 2024 - FY 2028													Total	
	2018	2019	2020	2021	2022	Total	Growth		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total CM	Growth								
	Total	Eligible	2024	2025	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total CM	Growth	Eligible												
<b>Wastewater Plant</b>																																	
Treatment ADMS Emissions Tester	\$0	\$0	\$14,462	\$0	\$0	\$14,462	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$18,513	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,513	\$7,868	23.9%							
Treatment Emissions Tester	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment High Pressure Effluent Line	\$0	\$0	\$17,594	\$0	\$0	\$17,594	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Rotors 1, 2, 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Rotors 7, 8, 9, 10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Anson 500 Polymer Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Polyblend Unit Belt Press	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Polyblend Unit DAF	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Polyblend Unit Backup 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Polyblend Unit Backup 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Claribar Equipment (2)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Shell Millers Reducer - (Bank #)	\$0	\$0	\$15,756	\$0	\$0	\$15,756	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Belt Press Rollers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Heat Exchangers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Pumps Ssd	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Scum and Tank Drain Pump - 10 HP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Submersible Pump - 15 HP (2) ID	\$0	\$0	\$18,118	\$0	\$0	\$18,118	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Auxiliary Pump 2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment HRS Pump 1 7.5 HP Rebuild	\$0	\$0	\$46,500	\$0	\$0	\$46,500	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment RAS Pump 2 Rebuild	\$4,857	\$0	\$0	\$0	\$0	\$4,857	25.7%	1.78%	\$5,833	\$0	\$5,774	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment RAS Pump 3 Rebuild	\$4,857	\$0	\$0	\$0	\$0	\$4,857	25.7%	1.78%	\$5,774	\$0	\$5,774	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment RAS Pump 4 7.5 HP Rebuild	\$4,743	\$0	\$0	\$0	\$0	\$4,743	25.7%	1.77%	\$5,623	\$0	\$5,623	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Effluent Pump 1 40 HP	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Effluent Pump 2 40 HP	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Effluent Pump 3 500 HP	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Effluent Pump 6 500 HP	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Belt Feed Pump	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Pond #1 Reconstruction	\$66,230	\$0	\$0	\$0	\$0	\$66,230	2.3%	16.88%	\$78,381	\$0	\$78,381	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Pond #2 Reconstruction	\$66,230	\$0	\$0	\$0	\$0	\$66,230	2.3%	16.88%	\$78,381	\$0	\$78,381	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Spiller Box Building	\$4,960	\$0	\$0	\$0	\$0	\$4,960	0.2%	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Auxiliary Pumps Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Storage Bins	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Plumbing - Cannibal Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Main Pump Building - Block Entry	\$12,000	\$0	\$0	\$0	\$0	\$12,000	0.4%	45.82%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Roof - Main Pump Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Walkways Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Interior Coating	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Windows	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Ceiling Doors	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Fans	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Sweiglis	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment CDB - Main Doors	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment DAC Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment DAC Roof	\$13,300	\$0	\$0	\$0	\$0	\$13,300	0.5%	12.00%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Clarifier 1 - Rebuild	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Clarifier 2 - Rebuild	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Clarifier 3 - Rebuild	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Carbon Tower	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Wash Pines Raptor	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Bell Pines #1	\$1,300,000	\$0	\$0	\$0	\$0	\$1,300,000	5.0%	11.00%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Treatment Sludge Building	\$0	\$0	\$0	\$0	\$0	\$0	0.0%	\$0																									





**Compass Bank Loan**

<b>Date</b>	<b>Beginning Balance</b>	<b>Principal</b>	<b>Interest</b>	<b>Total Debt Service</b>	<b>Ending Balance</b>	<b>Annual Payment</b>	<b>% of Assets</b>
	\$5,568,142				\$5,568,142		
5/15/2012	\$5,568,142	\$196,168	\$91,874	\$288,042	\$5,371,975	\$288,042	
11/15/2012	5,371,975	199,404	88,638	288,042	5,172,570		
5/15/2013	5,172,570	202,694	85,347	288,042	4,969,876	\$576,084	
11/15/2013	4,969,876	206,039	82,003	288,042	4,763,837		
5/15/2014	4,763,837	209,439	78,603	288,042	4,554,398	\$576,084	
11/15/2014	4,554,398	212,894	75,148	288,042	4,341,504		
5/15/2015	4,341,504	216,407	71,635	288,042	4,125,097	\$576,084	
11/15/2015	4,125,097	219,978	68,064	288,042	3,905,119		
5/15/2016	3,905,119	223,607	64,434	288,042	3,681,512	\$576,084	
11/15/2016	3,681,512	227,297	60,745	288,042	3,454,215		
5/15/2017	3,454,215	231,047	56,995	288,042	3,223,168	\$576,084	
11/15/2017	3,223,168	234,860	53,182	288,042	2,988,308		
5/15/2018	2,988,308	238,735	49,307	288,042	2,749,573	\$576,084	
11/15/2018	2,749,573	242,674	45,368	288,042	2,506,899		
5/15/2019	2,506,899	138,190	41,344	179,534	2,368,709	\$467,576	
11/15/2019	2,368,709	140,470	39,064	179,534	2,228,239		
5/15/2020	2,228,239	142,788	36,746	179,534	2,085,452	\$359,068	
11/15/2020	2,085,452	145,144	34,390	179,534	1,940,308		
5/15/2021	1,940,308	147,539	31,995	179,534	1,792,769	\$359,068	
11/15/2021	1,792,769	149,973	29,561	179,534	1,642,796		
5/15/2022	1,642,796	152,448	27,086	179,534	1,490,348	\$359,068	
11/15/2022	1,490,348	154,963	24,571	179,534	1,335,385		
5/15/2023	1,335,385	157,520	22,014	179,534	1,177,865	\$359,068	
11/15/2023	1,177,865	160,119	19,415	179,534	1,017,746		
5/15/2024	1,017,746	162,761	16,773	179,534	854,985	\$359,068	
11/15/2024	854,985	165,447	14,087	179,534	689,539		
5/15/2025	689,539	168,176	11,357	179,534	521,363	\$359,068	
11/15/2025	521,363	170,951	8,582	179,534	350,411		
5/15/2026	350,411	173,772	5,762	179,534	176,639	\$359,068	
11/15/2026	176,639	176,639	2,915	179,554	0		
		5,568,142	1,337,004	6,905,147			

<i>Treatment</i>	71.9%
<i>Collection</i>	14.0%
<i>General</i>	14.1%

**Big Bear Area Regional Wastewater Agency**  
**Connection Fee Analysis**  
**Summary**  
**Exhibit 5**

<b>Current Connection Fee per EDU in 2010</b>		<b>\$3,670</b>
<b>Calculated Connection Fee</b>		<b>\$4,180</b>
	<i>Difference</i>	<i>\$510</i>
	<i>Percent</i>	<i>12.2%</i>

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**Sewer Connection Fee Calculation**

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Treatment	\$3,407.60
Collection	620.81
General Plant	153.92
<b>Total</b>	<b>\$4,182.33</b>
<b>Rounding for Implementation Purposes</b>	<b>\$4,180</b>



## FINAL REPORT



**Big Bear Area Regional Wastewater Agency**  
*Comprehensive Sewer Rate Study*  
February 2018



February 21, 2018

Ms. Jennifer McCullar  
Finance Manager  
Big Bear Area Regional Wastewater Agency  
121 Palomino Drive  
Big Bear Agency, CA 92314

Subject: Comprehensive Sewer Rate Study Update Final Report

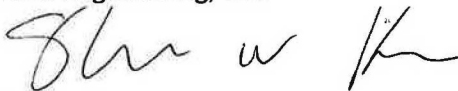
Dear Ms. McCullar:

HDR Engineering, Inc. (HDR) is pleased to present the final report on the comprehensive sewer rate study update conducted for the Big Bear Area Regional Wastewater Agency (Agency). A key objective in developing the Agency's regional sewer rate study was to develop a financial plan and rates that generate adequate revenue to fund the Agency's operating and capital needs over a projected five year time period. This report outlines the approach, methodology, findings, and conclusions of the comprehensive sewer rate study process.

The cost associated with providing sewer services to the Agency's customers has been developed based on Agency specific information and is included within the development of the proposed rates. This report was developed utilizing the Agency's accounting, operating and billing records, current budgets, and future projections. HDR has relied upon this information to develop our analyses that form our findings, conclusions, and recommendations. The study was developed utilizing generally accepted rate setting principles. The conclusions and recommendations contained within this report is intended to provide a financial plan that meets the operating and capital needs of the Agency. Finally, this report provides the basis for developing and implementing rates that are cost-based, defensible, and equitable to the Agency's customers.

We appreciate the assistance provided by Agency staff in the development of this study. More importantly, we appreciate working with Agency's staff, management, and Board on this project.

Sincerely yours,  
HDR Engineering, Inc.



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Associate Vice President/  
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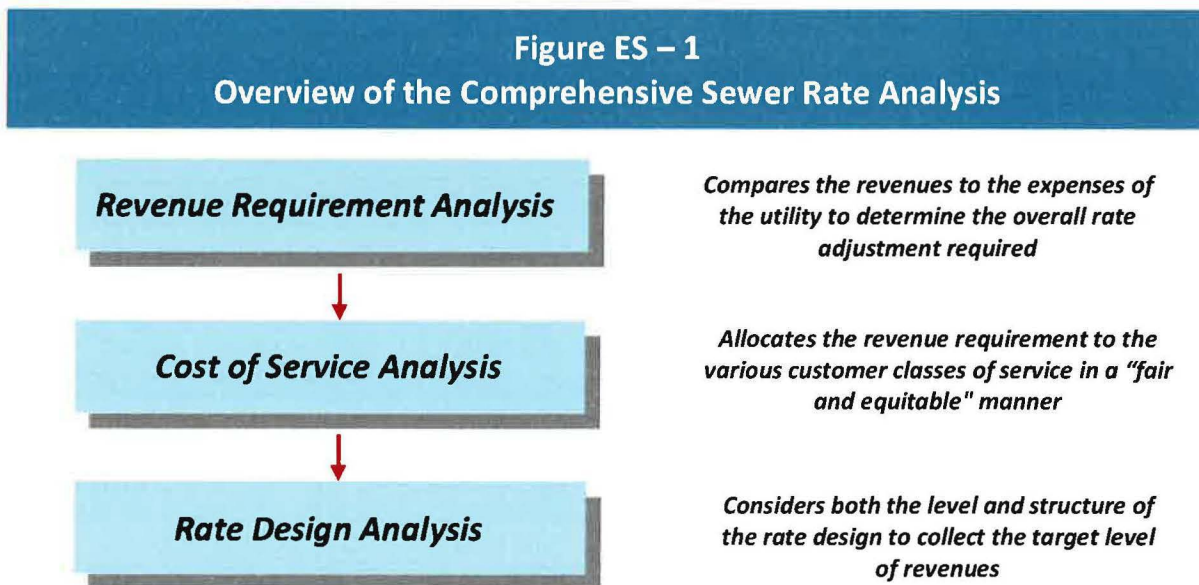
# Executive Summary

## Introduction

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Regional Wastewater Agency (Agency) to perform a regional comprehensive sewer rate study. HDR had previously performed a sewer rate study for the Agency in 2010. In this updated study, HDR developed and prepared an analysis to determine the adequacy of the existing sewer rates and proposed a basis for adjustments to maintain cost-based rates. This section of this report will provide a brief overview of the rate study components. The results and recommendations of the sewer cost of service study are contained in the subsequent sections of this report.

## Overview of the Rate Study Process

A comprehensive sewer rate study utilizes three interrelated analyses to address the adequacy and equity of utility rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. Figure ES – 1 below shows the rate study process and each of the three analytical steps involved.



## Key Sewer Rate Study Results

The sewer rate study technical analysis was developed based on the operating and capital costs necessary to provide sewer service to the Agency's customers. The sewer analysis resulted in the following findings, conclusions, and recommendations.

- The Agency's FY 2018 adopted budget was used as the starting point of the analysis



- Operation and maintenance expenses are projected to increase at inflationary levels with no assumed changes to levels of service or anticipated extraordinary expenses.
- Assumed new connections are 55 EDUs per year through FY 2023 for a total of 330 new connections. This level of connections is consistent with the most recent growth patterns experienced by the Agency.
- Minor, inflationary level, rate adjustments are necessary to fund the Agency's operating and capital costs over the next five-year period (FY 2019 – FY 2023).
- Based upon Board policy direction, a five-year rate schedule has been developed which includes 2.8% annual rate adjustments in FY 2019 and FY 2020 followed by a 2.9% adjustment in FY 2021, and annual adjustments of 3.0% in FY 2022 and FY 2023.
- The proposed adjustments provide adequate revenues to maintain the Agency's target minimum reserve levels for operating liquidity & contingency reserves, capital replacement reserves, emergency reserves, and debt service reserves.
- The proposed rate transition plan will help smooth the rate adjustments, minimizes future rate impacts, and provides funding for future capital projects.
- Cost of service analysis was developed to review the equity of the existing rates and to proportionally allocate the revenue requirement on a per EDU basis.
- The results of the cost of service analyses provided the unit costs (i.e., cost basis) which were used to establish the proposed regional sewer rates.
- A projection of the rate per EDU has been developed for FY 2019 through FY 2023.

In five years, the Agency should review the need for additional rate adjustments.

## Summary of the Revenue Requirement Analysis

A revenue requirement analysis is the first analytical step in the development of the sewer rate study. This analysis determines the adequacy of the level of current sewer rates for the Agency. From this analysis, a determination can be made as to the overall level of rate revenue adjustments needed to provide adequate and prudent funding for both operating and capital needs.

For this update, the revenue requirement was developed for a review period (FY 2018 – FY 2023). A multi-year time frame is recommended to better anticipate future financial requirements and allow the Agency to begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. For the revenue requirement analysis a "cash basis" approach was utilized. The "cash basis" approach is the most commonly used methodology by municipal utilities to set their revenue requirement and it includes an analysis of O&M expenses, transfer payments, debt service, and capital projects funded from rates. The primary financial inputs in the development of the revenue requirement analysis were the Agency's adopted FY 2018 budget, historical billed customer and consumption data, and the sewer system capital improvement plan.

Once the operating and maintenance expenses have been projected over the time period - based on budgeted expenses and historical inflationary factors - the next step is to develop the

capital project funding plan. The proper and adequate funding of capital projects is important to help minimize rates over time. A general financial guideline states that, at a minimum, a utility should fund an amount equal to or greater than annual depreciation expense through rates. For the Agency's study, a capital improvement plan was developed to identify the projects necessary to maintain the sewer system as well as projects necessary to meet new growth and subsequent expansion of the system. Provided below in Table ES - 1 is a summary of the capital funding plan over the rate setting period.

**Table ES - 1**  
**Summary of the Capital Improvement Plan (\$000s)**

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Total Admin Building	\$17	\$0	\$0	\$0	\$0	\$0
Total Effluent Disposal Assets	60	0	0	0	0	36
Total Interceptor System	8	1,270	0	0	0	0
Total Flow Measuring Devices	26	0	47	0	25	43
Total Other Equipment	52	58	279	242	0	40
Total Transportation Equipment	0	0	92	65	0	117
Total Other Capital Assets	0	0	11	0	0	0
Total Other Tangible Assets	35	0	100	0	0	0
Total Power Generation Equipment	203	0	0	423	123	45
Total Treatment Plant	1,226	1,362	677	16	75	228
Total Studies and Maps	65	0	0	0	0	100
Future Unidentified Capital Improv.	0	0	0	0	0	0
To Capital Reserves	0	222	0	55	577	191
<b>Total Capital Improvement Projects</b>	<b>\$1,692</b>	<b>\$2,912</b>	<b>\$1,207</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>
<i>Less: Other Funding Sources</i>						
Operating Fund-Sewer	\$0	\$0	\$0	\$0	\$0	\$0
Capital and Replacement Fund	838	0	255	0	0	0
Connection Fees	54	38	152	0	0	0
Proceeds from Debt	0	2,074	0	0	0	0
Grants	0	0	0	0	0	0
New Long-Term Borrowing	0	0	0	0	0	0
<b>Total Other Funding Sources</b>	<b>\$892</b>	<b>\$2,112</b>	<b>\$407</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Rate Funded Capital</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>

The financial plan developed for the Agency's sewer utility has placed the rate funded capital level at \$800,000 in FY 2018 and remaining flat over the review period. This level of funding was calculated based on the long-term need to prudently fund replacement and repair of the existing system. As can be seen, the difference between annual capital replacement needs and rate funded capital, when necessary, is being funded through available reserves. It is important to note that the Agency prioritizes annual cash funding of capital projects to minimize the need to issue long-term debt. This creates a more stable level of funding over time for capital projects and may provide the Agency with financial flexibility in the future.

The revenue requirement analysis for Agency’s sewer utility was developed to determine the necessary revenues to meet the costs of providing service to the customers based on the specific costs of the Agency’s sewer utility. Provided below, in Table ES – 2, is a summary of the water revenue requirement analysis (financial plan). A more detailed analysis of the sewer revenue requirements can be found in Section 3 of this report.

**Table ES - 2**  
**Summary of the Sewer Revenue Requirement Analysis (\$000)**

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Revenues</b>						
Rate Revenues	\$5,092	\$5,103	\$5,114	\$5,125	\$5,137	\$5,148
Other Revenues	157	157	156	156	156	155
<b>Total Revenues</b>	<b>\$5,249</b>	<b>\$5,260</b>	<b>\$5,270</b>	<b>\$5,281</b>	<b>\$5,292</b>	<b>\$5,303</b>
<b>Expenses</b>						
Total O&M Expenses	\$3,863	\$4,044	\$4,295	\$4,557	\$4,802	\$5,054
Taxes and Transfers	4	4	4	4	4	4
Rate Funded Capital	800	800	800	800	800	800
Net Debt Service	455	382	296	337	337	337
Total Reserve Funding	72	173	166	31	(35)	(102)
<b>Total Expenses</b>	<b>\$5,193</b>	<b>\$5,403</b>	<b>\$5,561</b>	<b>\$5,729</b>	<b>\$5,909</b>	<b>\$6,094</b>
Bal. / (Def.) of Funds	\$56	(\$143)	(\$290)	(\$448)	(\$617)	(\$791)
<i>Bal. as a % of Rate Rev.</i>	-1.1%	2.8%	5.7%	8.7%	12.0%	15.4%
<b>Proposed Rate Revenue Adj.</b>	<b>0.0%</b>	<b>2.8%</b>	<b>2.8%</b>	<b>2.9%</b>	<b>3.0%</b>	<b>3.0%</b>
Add'l Rev. from Rate Adj.	\$0	\$143	\$290	\$448	\$617	\$791
Total Bal. / (Def.) of Funds	\$56	\$0	\$0	(\$0)	(\$0)	\$0

As can be seen, the sewer revenue requirement has summed O&M, taxes and transfers, rate funded capital, annual debt service, and transfers to reserves. The total revenue requirement is then compared to the total sources of funds which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison a balance or deficiency of funds in each year can be determined. This deficiency of funds is then compared to the projection of rate revenues, at “normal” consumption levels, to determine the level of revenue adjustment needed to meet the costs of providing water service. It is important to note the “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years.

In FY 2019 the overall levels of sewer rate revenues need to be increased by 2.8% for two years, 2.9% for a year, and 3.0% for two more years in order to meet the operating and capital needs of the utility. It is proposed that the subsequent proposed rate adjustments will be effective each year on July 1, or the beginning of the fiscal year.

HDR has concluded that the Agency will need to adjust the level of rate revenues as noted above to maintain cost-based rates. HDR has reached this conclusion for the following reasons:

- Revenue adjustments are necessary to meet the operating and capital costs of providing sewer service to the Agency’s customers.
- The proposed rate adjustments maintain the Agency’s financial health and provide long-term sustainable funding levels.
- The Agency should review the sewer rates annually in order to assess sufficiency.

### Summary of Cost of Service Analysis

A cost of service analysis determines the equitable allocation of the Agency’s revenue requirement to the member agencies. The objective of the cost of service analysis is different from the revenue requirement analysis. The revenue requirement analysis determines the Agency’s overall financial needs, while the cost of service analysis determines the fair and equitable collection of the revenue requirement.

The cost of service analysis began by functionalizing the revenue requirement for the sewer utility. The functionalized revenue requirement was then classified into their various cost components. A summary of the cost of service analysis is provided in Table ES – 3.

Table ES – 3 Summary of the Cost of Service Analysis (\$000s)				
	Present Rate Revenues	Allocated Costs	\$ Difference	% Difference
All Customers	\$5,103	\$5,246	(\$143)	2.8%

Based on the allocated costs, a per EDU charge can be developed which becomes the basis for the proposed rates.

### Summary of the Rate Design

The final step of the comprehensive sewer rate study process is the design of sewer rates to collect the desired level of revenue, based on the results of the revenue requirement and cost of service analysis. The individual classification totals were then allocated on a per EDU basis. The allocated expenses were then aggregated to determine overall per EDU revenue responsibility.

Developing cost-based and equitable rates is of paramount importance in developing proposed sewer rates. Given this, the Agency’s proposed sewer rates have been developed with the intent of meeting the legal requirements of California constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated among the various customer classes

of service. HDR would point out that there is no single methodology for equitably assigning costs to the various customer groups. The Water Environment Federation (WEF) Manual of Practice No. 27 clearly delineates various methodologies which may be used to establish cost-based rates. Article XIII D does not prescribe a particular methodology for establishing rates; consequently, HDR developed the Agency’s proposed sewer rates based on the WEF MOP #27 methodology to meet the requirements of Article XIII D and recent legal decisions to provide an administrative record of the steps taken to establish the Agency’s regional sewer rates.

HDR is of the opinion that the proposed rates comply with legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from sewer rates does not exceed the funds required to provide the property related service (i.e., sewer service).** The proposed rates are designed to collect the overall revenue requirements of the Agency’s sewer system.
- **The revenues derived from sewer rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the Agency’s sewer rates are used exclusively to operate and maintain the Agency’s sewer system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis was specifically developed to focus on the issue of proportional assignment of costs. Since there is only one class of service, allocation of costs is simplified on an EDU basis. The proposed rates reflect the system requirements and costs to provide service on an EDU basis.

A fixed rate per EDU has been proposed which reflects the occupancy characteristics of the Agency’s service area and the fixed nature of the Agency’s cost structure. The annual flat charge or fixed charge component will allow the Agency to recover its fixed costs irrespective of flow. As a result, approximately 73% of the Agency’s revenue would be collected on a per EDU basis, with the remaining 27% collected on a volume basis.

The proposed rates for each member agency will be based on the annual per EDU charge and a volumetric adjustment derived from metered volume based on the most recent, three-year average of each member agency’s metered volume. The proposed rates are provided in Table ES - 4 for FY 2019 through FY 2023.

Table ES - 4 Present and Proposed Sewer Rates						
	<i>Present Rates</i>	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
	<i>\$ / EDU</i>					
All Customers	\$204.34	\$210.06	\$215.94	\$222.21	\$228.87	\$235.74

## **Summary of the Sewer Rate Study**

This completes the summary of the regional sewer rate study update for the Agency. Annual rate adjustments are recommended of 2.8% in FY 2019 and FY 2020, 2.9% in FY 2021, and 3.0% in FY 2022 through FY 2023. It is recommended that the rate structure continue to reflect an annual fixed charge per EDU with adjustments to the rate prorated for each member agency based on metered flow based on the most recent three-year average flows. A full and complete discussion of the development of the comprehensive rate study update, the original recommendations, and results can be found in following sections of this report.



# 1 Introduction

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## 1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the Big Bear Area Regional Wastewater Agency (Agency) to perform an update to the regional comprehensive sewer rate study that was previously performed by HDR in 2010. The development of this study determines the adequacy of the existing sewer rates and provides the basis for any rate adjustments while maintaining cost-based rates. This report describes the methodology, findings, and conclusions of the sewer rate study process.

## 1.2 Goals and Objectives

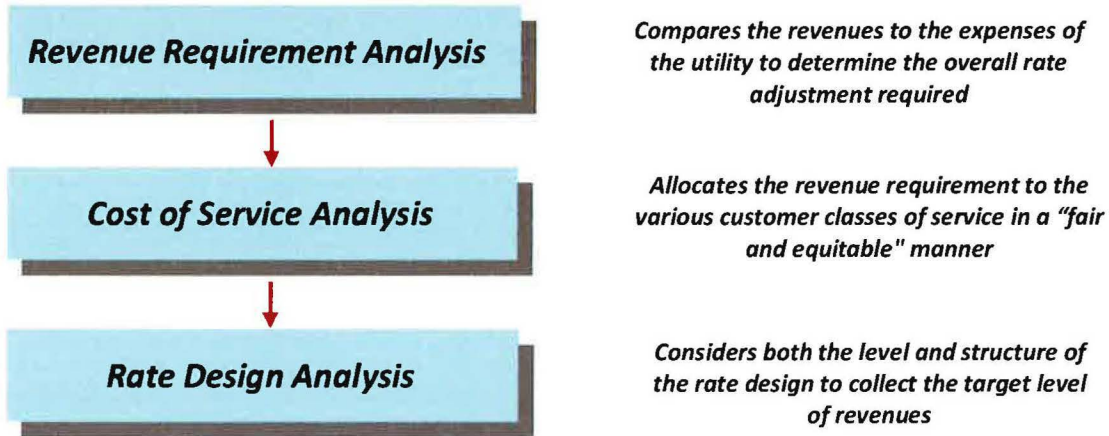
The Agency had a number of key objectives in developing the sewer rate study update. These key objectives provided a framework for policy decisions in the analysis that follows. These key objectives were as follows:

- ❖ Develop the sewer study in a manner that is consistent with the principles and methodologies established by the Water Environment Federation (WEF), Manual of Practice No. 27, Financing and Charges for Sewer Systems.
- ❖ In financial planning and establishing the Agency's rates, review and utilize best industry practices, while recognizing and acknowledging the specific and unique characteristics of the Agency's sewer system.
- ❖ Review the Agency's rates utilizing "generally accepted" rate making methodologies to determine adequacy and equity of the utility rates.
- ❖ Meet the Agency's financial planning criteria and goals, such as debt service coverage ratios, adequate funding of capital infrastructure replacement, and maintenance of adequate and prudent reserve levels.
- ❖ Develop a financial plan which adequately supports the sewer utility's funding requirements, while attempting to minimize overall impacts to rates.
- ❖ Provide rates designed to meet the legal requirements of Article XIII D and recent legal decisions related to Article XIII D.

## 1.3 Overview of the Rate Study Process

A comprehensive sewer rate study typically utilizes three interrelated analyses to address the adequacy and equity of utility rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis.

## Figure 1 – 1 Overview of the Comprehensive Sewer Rate Analysis



The primary focus of a revenue requirement analysis is the determination of the overall revenue sources and expenses of the utility. From this analysis, a determination is made as to the overall level of a rate adjustment. Next, a cost of service analysis is performed to equitably allocate the revenue requirement to the member agencies served by the Agency. Finally, the last step of the rate study process is the rate design. Rates are designed to collect the appropriate level of revenues while considering other rate design goals and Agency objectives (e.g., revenue stability, continuity in philosophy, etc.). As a part of this study, HDR developed each of these analyses to analyze the Agency's current sewer rates. At the same time, HDR utilized "generally accepted" cost of service and rate setting techniques and industry best practices in the development of the Agency's regional sewer rate study.

### 1.4 Report Organization

This report is organized as follows:

- Section 2 provides background about the utility rate setting process.
- Section 3 reviews the revenue requirement analysis.
- Section 4 reviews the cost of service analysis.
- Section 5 reviews the rate design analysis.

A technical appendix is attached at the end of the report which provides the analysis used in the preparation of this report.





## 2 Overview of Rate Setting Principles

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### 2.1 Introduction

This section provides background information about the rate setting process, including descriptions of generally accepted principles, types of utilities, methods of determining revenue requirement, the cost of service approach, and rate design. This information is useful for gaining a better understanding of the details presented in Sections 3 through 5.

### 2.2 Generally Accepted Rate Setting Principles

As a practical matter, utilities should consider setting their rates around some generally accepted or global principles and guidelines. Utility rates should be:

- ✓ Cost-based, equitable, and set at a level that meets the utility's full revenue requirement.
- ✓ Easy to understand and administer.
- ✓ Designed to conform to generally accepted rate setting techniques.
- ✓ Stable in their ability to provide adequate revenues for meeting the utility's financial, operating, and regulatory requirements.
- ✓ Established at a level that is stable from year to year from a customer's perspective.

### 2.3 Types of Utilities

Utilities are generally divided into two types:

**Public utilities** are usually owned by a city, county, or special district, and are theoretically operated at zero profit. A public utility is locally owned since its customers are also its owners. As a point of reference, the Agency is a public utility.

Public utilities are capitalized or financed by issuing debt and soliciting funds from customers through direct capital contributions or user rates. Public or municipal utilities are typically exempt from state and federal income taxes. A publicly elected Agency council or board of trustees usually regulates public utilities.

**Private utilities** are "for profit" enterprises and are owned by a private company and/or stockholders. The shareholders are, in essence, the owners of the private utility. Therefore, the owners of a private utility may not be customers or local citizens, but rather numerous individuals or shareholders spread across the United States.

A private utility is capitalized by issuing stock to the general public. Private utilities are taxable entities. Given their for-profit status, their rates and operations are generally regulated by a state public utility commission or other regulatory body.

## 2.4 Determining the Revenue Requirement

Because public and private utilities have very different administrative and financial characteristics, their methods differ for determining revenue requirement and setting rates.

### 2.4.1 Public Utilities

Most public utilities use the “cash basis” approach for establishing their revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility:

- Totals its operating and capital expenses to determine the required revenues. These operating and capital costs may be offset by “other”, or miscellaneous revenues, if they exist.
- Adds operating and maintenance (O&M) expenses to any applicable taxes or transfer payments to determine total operating expenses. Operating and maintenance expenses include the materials, electricity, labor, supplies, etc. needed to keep the utility functioning.
- Calculates capital costs by adding debt service funded through rates (principal and interest) to capital improvements funded through rates (rate funded capital improvements). When determining rate funded capital improvements, annual depreciation expense may be used as the minimum annual capital improvement amount to be collected through rates when the amounts from the capital improvement plan are lower due to timing. In theory, annual depreciation expense represents the amount that should be collected on average, over the long term, for annual asset replacement. When annual depreciation expense is used to determine rate funded capital it results in a more stable revenue requirement and thus, more stable rates.

Under the cash basis approach, the sum of the capital and operating expenses equals the utility’s revenue requirement during any period of time (see Table 2 - 1).

Note that the two portions of the capital expense component (debt service and capital improvements financed from rates) are necessary under the cash basis approach because utilities generally cannot finance all their capital facilities with long-term debt. An exception occurs if a public utility provides service to a wholesale or contract customer. In this situation, a public utility could use the “utility basis” approach (see below) to earn a fair return on its investment.

**Table 2 - 1**  
**Cash versus Utility Basis Comparison**

Cash Basis	Utility Basis (Accrual)
+ O&M Expense	+ O&M Expense
+ Taxes or Transfer Payments	+ Taxes or Transfer Payments
+ Capital Improvements Financed with Rate Revenues (≥ Depreciation Expense)	+ Depreciation Expense
+ Debt service (Principal + Interest)	+ Return on Investment
= <b>Total Revenue Requirement</b>	= <b>Total Revenue Requirement</b>

### 2.4.2 Private Utilities

Most private utilities use a “utility basis” or accrual approach for establishing revenue requirement and setting rates (see Table 2 - 1). A private utility typically:

- Totals its O&M expenses, taxes, and depreciation expense for a period of time. Including depreciation expense in the revenue requirement recoups the cost of capital facilities over their useful lives in preparation for timely asset replacement.
- Adds a fair return on investment.
- Private utilities must pay state and federal income taxes along with any applicable property, franchise, sales, or other form of revenue taxes. The return portion of this type of revenue requirement pays for the private utility’s interest expense on indebtedness, provides funds for a return to the utility’s shareholders in the form of dividends, and leaves a balance for retained earnings and cash flow purposes.

## 2.5 Analyzing Cost of Service

After the total revenue requirement is determined, it is allocated to the users of the service. The allocation, usually analyzed through a cost of service study, reflects the cost relationships for producing and delivering services.

A cost of service study requires three steps:

1. Costs are **functionalized** or grouped into the various cost categories related to providing service (treatment, collection, etc.). This step is largely accomplished by the utility’s accounting system.
2. The functionalized costs are then **allocation** to specific cost components. Allocation refers to the arrangement of the functionalized data into cost components. For example, a sewer utility’s costs are typically allocated as volume-, strength-, or customer-related.
3. Once the costs are classified into components, they are **distributed** to the customer classes of service, although the Agency only has one class of customers. The distribution is based on each member agency’s relative contribution to the cost component. For example, volume-related costs are distributed to each member agency based on the total volume for

the member agency. Once costs are distributed, the required revenues by member agency to determine cost-based rates can be determined.

## **2.6 Designing Rates**

Rates that meet the utility's objectives are designed based on both the revenue requirement and the cost of service analysis. This approach results in rates that are strictly cost-based and does not consider other non-cost based goals and objectives (conservation, economic development, ability to pay, revenue stability, etc.). In designing the final proposed rates, factors such as ability to pay, continuity of past rate philosophy, economic development, ease of administration, and customer understanding may be taken into consideration. However, the proposed rates must take into consideration the proportional share of costs allocated through the cost of service analysis to meet the intent of Proposition 218.

## **2.7 Summary**

This section of the report has provided a brief introduction to the general principles, techniques, and approach used to develop cost-based and equitable sewer rates. These principles and techniques will become the basis for the Agency's comprehensive rate study update.



## 3 Development of the Revenue Requirement

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### 3.1 Introduction

This section describes the development of the sewer revenue requirement analysis for the Agency. The revenue requirement analysis is the first analytical step in the comprehensive rate study process. This analysis determines the adequacy of the Agency's overall sewer rates. From this analysis, a determination can be made as to the overall level of the sewer rate adjustment needed to provide adequate and prudent funding for both operating and capital needs. Typically, one of the main objectives of a rate study is to develop fair and equitable rates while attempting to minimize the impacts to customers.

In developing the sewer revenue requirement, it was assumed the Agency's sewer system must financially "stand on its own" and be properly funded. As a result, the revenue requirement as developed herein assumes the full and proper funding needed to operate and maintain the Agency's sewer system on a financially sound and prudent basis.

### 3.2 Determining the Time Period and Approach

The first step in calculating the revenue requirement was to establish a time frame for the revenue requirement analysis. For this study, the revenue requirement was developed for a six-year projected time period (FY 2018 – FY 2023). This time period coincided with the recent capital improvement plan and operating budget developed by the Agency. By anticipating future financial requirements, the Agency can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

The second step in determining the revenue requirement for the Agency was to decide on the basis of accumulating costs. For the Agency's revenue requirement, a cash basis approach was utilized. The cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement. Section 2 of this report provided a simple overview of the cash basis methodology. The actual revenue requirement developed for the Agency was customized to follow the Agency's system of accounts (budget documents). However, in general, even with these modifications, the Agency's revenue requirement still contains the basic cost components of a cash basis methodology. Table 3 - 1 provides a summary of the cash basis approach used to develop the Agency's revenue requirement.

**Table 3 - 1**  
**Overview of Cash Basis Revenue Requirement**

+	Operation and maintenance exp.
+	Rate funded capital improvements <sup>[a]</sup>
+	Debt Service (P + I) funded from rates
<u>±</u>	<u>Minimum reserve funding</u>
<u>-</u>	<u>Other Revenues</u>
<b>=</b>	<b>Total Revenue Requirement</b>
[a]	Rate funded capital improvements
+	Total capital improvement projects
-	Funding sources other than rates
✓	Capital & Replacement Fund
✓	Connection Fees
✓	<u>Proceeds from Debt Issuance</u>
<b>=</b>	<b>Net Capital Improve. Funded From Rates</b>

Given a time period around which to develop the revenue requirement and a method to accumulate the appropriate costs, the focus then shifts to the development and projection of the revenues and expenses for the Agency.

The primary financial inputs in this process were the Agency’s historical billing records, current operating budget, and capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the Agency’s revenues and expenses.

### 3.3 Projection of Revenues

The first step in developing the revenue requirement was to develop a projection of rate revenues received by the Agency. This includes both rate revenues (calculated at present rate levels) and miscellaneous revenues. In general, this process involved developing projected billing units for each customer group. The billing units for each customer group were then multiplied by the applicable current rates. This method of independently calculating revenues assures the projected revenues used within the analysis tie to the projected billing units. Other miscellaneous revenues were based on historical accounting records and recent revenue projections.

### 3.3.1 Projection of Rate Revenues

Currently, the Agency has three major customers: City of Big Bear Lake, Big Bear City CSD, and CSA 53B. In total, at present rates, the Agency is projected to receive approximately \$5.1 million



in rate revenue in FY 2018. Over the planning horizon of this study, customer growth is expected to be 0.2% resulting in total rate revenues of approximately \$5.2 million by FY 2023. The rate revenue projections, at current rates, are used to determine future rate adjustments based on projected operating and capital needs.

### 3.3.2 Projection of Other Revenues

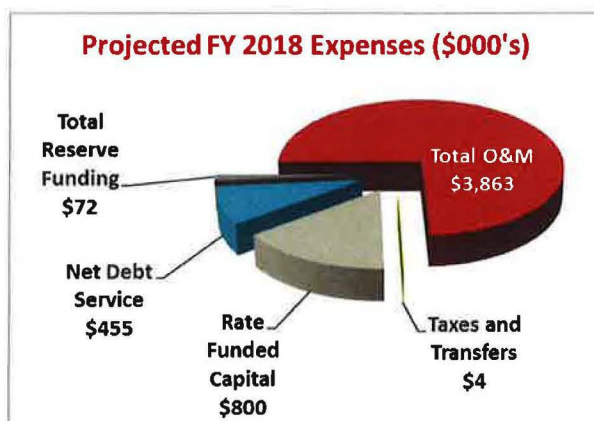
In addition to rate revenues, the Agency also receives a variety of other revenues which includes standby charges, rental income, waste haulers, and other revenues. The utility is projected to receive approximately \$157,000 in other revenues in FY 2018. Other revenues are expected to decrease slightly over time as a result of declining standby charges due to a reduction in un-connected parcels and reach \$155,000 in FY 2023.

On a combined basis, taking into account the rate revenues along with other revenues, the Agency's total projected revenues are expected to be approximately \$5.2 million in FY 2018, increasing slightly to \$5.3 million in FY 2023.

## 3.4 Projection of Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the Agency to operate and maintain the existing facilities. The costs incurred in this area are expensed during the current year and are not capitalized or depreciated.

In general, operation and maintenance expenses are grouped into a number of different functional categories. To begin the process of projecting O&M expenses over the planning horizon, escalation factors were developed. Escalation factors were developed for the basic types of expenses the Agency incurs: salaries, benefits, materials and supplies, repairs and replacements, equipment rental, sludge removal, chemicals, miscellaneous, power, other utilities, communications expense, contractual



services-other, contractual services-professional, permits and fees, property tax expense, other operating expense, and insurance. The escalation factors used were in the range of 1.8% to

11.3% per year, depending on the type of cost, as well as incorporating historical and recent inflationary trends.

To project future O&M expenses, the first step was to determine the functional categories for purposes of projecting costs. HDR reviewed the Agency's FY 2018 budget and determined it contained sufficient detail to develop the revenue requirement analysis. Therefore, in developing this analysis, HDR maintained the overall functional nature of the Agency's system of accounts.

Given the functionalized FY 2018 O&M expenses, HDR then escalated the O&M expenses based on the previously mentioned escalation factors. Total operation and maintenance expenses for the Agency are projected to be approximately \$3.9 million in FY 2018, increasing to approximately \$5.1 million by FY 2023 primarily as a result of assumed inflation over the time period.

### **3.5 Projection of Rate Funded Capital**

The Agency has large capital improvement projects, as well as repair and replacement capital expenses, planned over the study's time horizon. As part of the analysis, the capital improvement funding plan was reviewed to meet the requirements of the capital improvement plan and minimize long-term rate impacts. Consideration was given to the impact on rates from funding capital improvements on a pay-as-you-go basis, as well as debt financing the larger capital projects. In order to fund annual capital improvements and minimize rate impacts, it was recommended that the Agency debt finance these larger one-time capital improvements and fund the remaining capital expenditures through rates (rate funded capital improvements). This level of rate funded capital was based on a review of the Agency's long-term capital needs and prudent funding levels associated with annual asset replacement (i.e., annual depreciation expense). This level of rate funded capital will assure future capital replacements in a timely manner while minimizing the associated rate impacts.

For the five-year projection period, through FY 2023, capital projects total approximately \$6.4 million. Funding for the Agency's capital projects include \$2.1 million in debt issued in FY 2019 and the remaining balance funded through rates, existing fund balance, and connection fees. A detailed summary of the capital projects is provided in Table 3 - 2.



**Table 3 – 2**  
**Summary of the Capital Improvement Plan (\$000s)**

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Capital Improvement Projects</b>						
Total Admin Building	\$17	\$26	\$0	\$0	\$0	\$0
Total Effluent Disposal Assets	0	85	0	0	0	36
Total Interceptor System	8	1,270	0	0	0	0
Total Flow Measuring Devices	26	0	47	0	25	43
Total Other Equipment	52	68	279	242	0	40
Total Transportation Equipment	0	19	92	65	0	117
Total Other Capital Assets	0	0	11	0	0	0
Total Other Tangible Assets	35	0	100	0	250	250
Total Power Generation Equip.	203	107	72	424	235	0
Total Treatment Plant	1,226	1,362	677	173	75	62
Total Studies and Maps	65	0	0	0	0	100
Future Unidentified Capital Improv.	0	0	0	0	215	152
To Capital Reserves	0	0	0	0	0	0
<b>Total Capital Improvement Projects</b>	<b>\$1,632</b>	<b>\$2,937</b>	<b>\$1,279</b>	<b>\$903</b>	<b>\$800</b>	<b>\$800</b>
<b>Less: Other Funding Sources</b>						
Operating Fund-Sewer	\$0	\$0	\$0	\$0	\$0	\$0
Capital and Replacement Fund	778	25	327	103	0	0
Connection Fees	54	38	152	0	0	0
Proceeds from Debt	0	2,074	0	0	0	0
Grants	0	0	0	0	0	0
New Long-Term Borrowing	0	0	0	0	(0)	0
<b>Total Other Funding Sources</b>	<b>\$832</b>	<b>\$2,137</b>	<b>\$479</b>	<b>\$103</b>	<b>(\$0)</b>	<b>\$0</b>
<b>Rate Funded Capital</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>	<b>\$800</b>

The ongoing replacement of assets is often included in determining the capital requirements of a utility. A standard benchmark for asset replacement is annual depreciation expense. Annual depreciation expense reflects the current investment in facilities being depreciated or “losing” its useful life. Therefore, this portion of facility investment needs to be replaced to maintain the existing level of infrastructure. It should be noted that in theory, annual depreciation expense reflects the value of the infrastructure investment on average, 15 years ago, assuming a 30-year useful life. It should be noted, that funding an amount equal to annual depreciation expense will likely be insufficient to replace the existing or depreciated facility simply due to price inflation. Therefore, whenever possible, the Agency should be funding capital projects from rates in an amount greater than annual depreciation expense. As can be seen in Table 3 – 2 above, the Agency is at \$800,000 in FY 2018 and that figure is held flat over the review period. This reflects the historical level of “pay as you go” capital funding needs as well as the overall project needs over this time period. Over time, the Agency will need to continue to monitor the level of rate funded capital such that rates are set at a sufficient level to fund annual renewal and replacement needs.

### **3.6 Projection of Debt Service**

At the present time, the Agency has one outstanding debt obligation (Campus Bank Loan) with an annual debt service of approximately \$575,000 in FY 2011. This issuance decreases slightly over the review period as per the debt schedule, and in FY 2023 is approximately \$360,000. In addition, the Agency is assuming that it will issue \$2.1 million in long-term debt to finance future capital improvement projects. The additional long-term debt will increase the annual debt service payments by approximately \$180,000 per year based on Agency projections.

Generally, revenue bonds contain rate covenants requiring rates to be set at a level sufficient to meet a specified minimum debt service coverage ratio (DSC ratio). This is a financial measure of the utility's ability to repay the debt. In general, the DSC ratio is set at a level such that revenues less operating expenses will be between 1.0 and 1.25 times greater than the maximum annual debt service on the outstanding debt. Given a minimum DSC ratio, it is often prudent to plan or set rates at a level which exceeds this minimum. This guarantees meeting the minimum DSC ratio, and at the same time, provides a slight cushion for unexpected changes. This should also strengthen the Agency's ability to issue long-term debt in the future, if necessary, since bond rating agencies would review the Agency's past financial strength and ability to repay the bonds.

The Agency's debt service coverage ratio for FY 2018 on its existing debt is 2.76 and includes connection fees in the revenue or numerator portion of the DSC ratio. Inflationary level rate increases appear to be necessary to maintain strong coverage for the Agency due to the planned debt issuance in FY 2019. After the proposed rate adjustments, the DSC ratio remains strong at 2.25 in FY 2023.

### **3.7 Summary of the Revenue Requirement**

Given the above projections of revenues and expenses, a summary of the revenue requirement for the Agency can be developed. In developing the final revenue requirement, consideration was given to the financial planning considerations of the Agency. In particular, emphasis was placed on attempting to minimize rates, yet still have adequate funds to support the operational activities and capital projects throughout the projected time period. As noted in the previous discussion, several alternatives were reviewed with staff based on various capital funding levels and financing alternatives. The results presented in Table 3 - 3 allow the Agency to maximize annual capital improvements and minimize long-term rate impacts while funding a prudent level of capital through rates. Detailed analysis can be found in the Technical Appendices.

**Table 3-3**  
**Summary of the Revenue Requirement Analysis (\$'000s)**

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Revenues</b>						
Rate Revenues	\$5,092	\$5,103	\$5,114	\$5,125	\$5,137	\$5,148
Other Revenues	<u>157</u>	<u>157</u>	<u>156</u>	<u>156</u>	<u>156</u>	<u>155</u>
<b>Total Reserves</b>	<b>\$5,249</b>	<b>\$5,260</b>	<b>\$5,270</b>	<b>\$5,281</b>	<b>\$5,292</b>	<b>\$5,303</b>
<b>Expenses</b>						
O&M Expenses	\$3,863	\$4,044	\$4,295	\$4,557	\$4,802	\$5,054
Taxes and Transfers	4	4	4	4	4	4
Rate Funded Capital	800	800	800	800	800	800
Net Debt Service <sup>[1]</sup>	455	382	296	337	337	337
Reserve Funding	<u>72</u>	<u>173</u>	<u>166</u>	<u>31</u>	<u>(35)</u>	<u>(102)</u>
<b>Total Revenue Requirement</b>	<b>\$5,193</b>	<b>\$5,403</b>	<b>\$5,561</b>	<b>\$5,729</b>	<b>\$5,909</b>	<b>\$6,094</b>
Rate Revenue Bal. / (Def.)	\$56	(\$143)	(\$290)	(\$448)	(\$617)	(\$791)
% Rate Adjustment Required	-1.1%	2.8%	5.7%	8.7%	12.0%	15.4%
<b>Proposed Rate Adjustment</b>	<b>0.0%</b>	<b>2.8%</b>	<b>2.8%</b>	<b>2.9%</b>	<b>3.0%</b>	<b>3.0%</b>
Additional Revenue with Rate Adj.	\$0	\$143	\$290	\$448	\$617	\$791
Total Bal. / (Def.) after Rate Adj.	\$56	\$0	\$0	(\$0)	(\$0)	\$0

[1] Net debt service is the total debt service less the debt service funded through connection fees (limited to the fees associated with 55 connections per year or approximately \$200,000 annually).

It is important to note the annual deficiencies in Table 3 - 3 above under "Rate Revenue Bal. / (Def.)" and "% Rate Adjustment Required" are cumulative. That is, any adjustment in the initial years will reduce the needed deficiency in the following years. The results of the revenue requirement analysis indicate a deficiency of funds over the planning period. The deficiency ranges from approximately \$143,000 in FY 2019 to \$791,000 in FY 2023, or a cumulative deficiency in FY 2023 of 15.4%. Based on the revenue requirement analysis developed, HDR recommends the Agency adjust utility rates beginning in FY 2019. It is recommended that annual adjustments of 2.8% be implemented in FY 2019 through FY 2020, 2.9% in FY 2021, and by 3.0% in FY 2022 and FY 2023 to adequately fund the operating and capital needs of the Agency. It should be noted that with the proposed rate adjustments, the Agency will be utilizing available fund balance in the last two years of the analysis to minimize additional rate adjustments.

### 3.8 Summary of the Designated Reserve Funds

Reserves are an important part of a utility's financial picture. There can be many different purposes for reserves. The Agency currently has six (6) designated reserve funds: the operations fund (liquidity and contingency), capital and replacement fund, emergency fund, and the debt service fund. A connection fee fund was also established in the previous study to track connection fee revenues and uses. It is important for the Agency to set a minimum balance on the reserve funds. When the fund balance reaches the minimum level, it is a signal

for action on the Agency's part. Table 3 – 4 shows a summary of the each reserve fund, discusses the target minimum, and the purpose for the reserve.

<b>Table 3 - 4</b> <b>Summary of the Reserve Fund Balances</b>		
<b>Fund</b>	<b>Minimum Balance</b>	<b>Purpose</b>
<b>Operating – Contingency</b>	2 months of O&M, \$644,000 in FY 2018 ( increases by the annual % change in O&M)	Contingency (variance from budget)
<b>Operating – Liquidity</b>	\$1.9 million at July 1 of each year (increases by the annual % change in O&M)	Liquidity
<b>Capital and Replacement</b>	Variable minimum balance based on future capital requirements	Adequately fund capital improvements on a timely basis
<b>Debt Service</b>	Current year debt service at July 1	Principal and interest payments
<b>Emergency</b>	\$500,000	Emergency situations
<b>Connection Fee</b>	No explicit minimum	Track sources and uses of funds

The connection fee fund does not have a specified target balance for this analysis, only that the funds be used for the replacement of excess capacity, or growth related projects. Provided in Table 3 - 5 is a summary of the reserve fund balances and the target ending fund balances.

**Table 3-5**  
**Summary of the Reserve Fund Balances (\$'000s)**

Reserve Fund	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Operations Fund - Liquidity</b>						
Ending Balance	\$1,977	\$2,229	\$2,344	\$2,441	\$2,561	\$2,613
Target Ending Balance	1,955	2,046	2,173	2,306	2,430	2,558
Over / (Under) Target	23	183	171	135	131	56
<b>Operations Fund - Contingency</b>						
Ending Balance	\$644	\$674	\$724	\$764	\$804	\$844
Target Ending Balance	644	674	716	760	800	842
Over / (Under) Target	1	0	9	5	4	2
<b>Capital and Replacement Fund</b>						
Ending Balance	\$2,513	\$2,488	\$2,161	\$1,953	\$1,758	\$1,563
Target Ending Balance	1,345	1,381	1,418	1,456	1,495	1,535
Over / (Under) Target	1,168	1,107	743	497	263	28
<b>Emergency</b>						
Ending Balance	\$500	\$500	\$500	\$500	\$500	\$500
Target Ending Balance	500	500	500	500	500	500
Over / (Under) Target	0	0	0	0	0	0
<b>Debt Service</b>						
Ending Balance	\$648	\$539	\$539	\$539	\$539	\$539
Target Ending Balance	576	648	539	539	539	539
Over / (Under) Target	72	(109)	0	0	0	0
<b>Connection Fee</b>						
Ending Balance	\$296	\$197	\$6	\$7	\$9	\$11
<b>Total</b>						
Ending Fund Balance <sup>[1]</sup>	\$6,282	\$6,431	\$6,269	\$6,197	\$6,162	\$6,060
Target Ending Fund Balance	5,019	5,249	5,346	5,561	5,765	5,974
Over / (Under) Target	1,263	1,182	923	637	398	86

[1] – Total does not include Connect Fee reserve funds

As shown in Table 3-5, the reserve funds are drawn down to the annual minimum levels based on the development of revenue requirement and proposed rate increases. It is important to note that excess reserves are not available to off-set or mitigate the Agency's future needed rate adjustment as the current fund balances reflect the increased revenue from the proposed rate adjustments. While fund balances are available these funds are necessary in order to fund future capital improvements in the next five year period (FY 2024 – FY 2028).

### 3.9 Consultant's Recommendations

Based upon the revenue requirement analysis, HDR recommends the Agency implement annual rate adjustments of 2.8% in FY 2019 through FY 2020, 2.9% in FY 2021, and 3.0% in FY 2022 through FY 2023. The proposed adjustments would move the Agency to fully supporting the operations and capital needs over the review period.



## 4 Development of the Cost of Service

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### 4.1 Introduction

In the previous section, the revenue requirement analysis focused on determining the appropriate amount of operating and capital costs to be collected through rates. This section will discuss the development of the cost of service analysis for the Agency. A cost of service analysis is concerned with the equitable allocation of the revenue requirement among the Agency's customers. As noted previously, there is only one customer class comprised of the member agencies. Given that, the costs were allocated on a per EDU basis to develop the proposed rates for the member agencies. The revenue requirement presented in Section 3 of this report is utilized in the cost of service analysis.

In recent years, increasing emphasis has been placed on cost of service studies by government agencies, customers, utility regulatory commissions, and other parties. This interest has been generated in part by continued inflationary trends, increased operating and capital expenditures, and concerns of equity in rates among customers. Following the generally-accepted guidelines and principles of a cost of service analysis will inherently lead to rates which are equitable, cost-based, and not viewed as arbitrary or capricious in nature.

### 4.2 Objectives of a Cost of Service Study

There are two primary objectives in conducting a cost of service study:

- Allocate the revenue requirement among the customer classes of service
- Derive average unit costs for subsequent rate designs

The objectives of a cost of service analysis are different from determining the revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, while the cost of service study determines the fair and equitable manner in which to collect the revenue requirement.

The second rationale for conducting a cost of service analysis is to design the rates such that they properly reflect the costs incurred by the Agency. For example, the Agency incurs costs related to flow or total volume, the strength of the wastewater flow, and customer cost components. Each of these types of costs may be collected in a slightly different manner to allow for the development of a rate that collects costs in the same manner as they are incurred.

### 4.3 Determining the Customer Classes of Service

The first step in a cost of service study is to determine the customer classes of service. The Agency is a regional sewer service provider and provides service to three separate area member agencies. As mentioned previously, for purposes of the Agency's cost of service analysis, costs are allocated to all customers.

The goal of the cost of service analysis is to determine if significant cost differences exist among the member agencies based on the each agency's specific volumes and strengths of sewer volumes.

## 4.4 General Cost of Service Procedures

A cost of service study utilizes a three-step approach to review costs. These were previously discussed in our generic discussion in Section 2, and take the form of functionalization, allocation, and distribution. Provided below is a detailed discussion of the cost of service study conducted for the Agency, and the specific steps taken in the analysis.

### 4.4.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (facility) data by major operating functions within each utility. For example, pumping, treatment, collection, etc. Given that the Agency is primarily a treatment facility with a minimal collection system, the functionalization of the cost data was largely accomplished through the Agency's system of accounts.

### 4.4.2 Allocation of Costs

The second analytical task performed in a cost of service study is the allocation of the costs, or the revenue requirement. Allocation determines why the expenses were incurred or what type of need is being met. The Agency's facility accounts and revenue requirement were reviewed and classified using the following cost classifiers:

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity of wastewater collected and treated by member agency. A majority of collection system costs and treatment costs are included in this component.
- **Strength Related Costs:** Strength related costs are those costs associated with the additional handling and treatment of high "strength" sewer. Strength of wastewater is typically measured in biochemical oxygen demand (BOD) and total suspended solids (SS). Increased levels of BOD or SS generally equate to increased

### Terminology of a Sewer Cost of Service Analysis

**Functionalization** – The arrangement of the cost data by functional category (e.g. treatment, collection etc.).

**Classification** – The assignment of functionalized costs to cost components (e.g. volume, strength, and customer related).

**Allocation** – Allocating the classified costs to each member agency based on each member agency's proportional contribution to that specific cost component.

**Volume Costs** – Costs that are classified as volume related vary with the total flow of sewer (e.g. chemical use at the treatment facility).

**Strength Costs** – Costs classified as strength related refer to the wastewater treatment function. Typically, strength-related costs are further defined as biochemical oxygen demand (BOD) and suspended solids (SS). Customers with higher wastewater strength characteristics cost more to treat. Facilities are often designed and sized around meeting these costs.

**Direct Assignment** – Costs that can be clearly identified as belonging to a specific member agency.

treatment costs. Pre-treatment is generally required if the discharge is known to regularly exceed the typical waste strength.

- **Direct Assignments:** Certain costs associated with operating the utility may be directly traced to a specific customer or class of service. These costs are then “directly assigned” to that specific class of service.

Other cost classifiers (e.g., revenue, customer, etc.) can be used in the development of a cost of service analysis. However, for the Agency’s analysis these cost classifiers were the most appropriate given the regional service and cost drivers for the treatment facility.

#### 4.4.3 Development of Distribution Factors

Once the classification process is complete, and the customer groups have been defined, the various classified costs were allocated to all customers. The Agency’s classified costs were allocated using the following allocation factors:

- ❖ **Volume Allocation Factor:** Volume-related costs are generally allocated on the basis of contribution to wastewater flows. In order to develop this allocation factor, some knowledge of the contribution to flows must be determined. For the Agency, the member agencies wastewater flow is metered at the entry point to the Agency’s system. The annual metered wastewater by member agency for calendar year FY 2017 was the basis for the development of the volume allocation factor.
- ❖ **Strength Allocation Factor:** Strength-related costs are classified between biochemical oxygen demand (BOD) and suspended solids (SS). Each of these types of costs is allocated based on the relative estimated strengths that are contributed to the overall flow at the treatment facility. The Agency’s strength characteristics were based on prior testing of the wastewater and typical industry strength factors.

It should be noted that no costs were directly assigned during the development of the cost of service analysis.

Given the development of the allocation factors, the final step in the cost of service study is to allocate the classified costs to the various customer classes of service.

### 4.5 Functionalization and Classification of Plant in Service

The first step of the cost of service is the functionalization and classification of facilities, or the infrastructure in place to provide service. In performing the functionalization of facilities, HDR utilized the Agency’s historical facility records. Once the facilities were functionalized, the analysis shifted to allocation of the asset. The allocation process included reviewing each group of assets and determining which cost classifiers the assets were related to. For example, the Agency’s assets were classified as: volume-related, strength-related, or direct assignment. Provided below is a brief discussion of the process used.

Treatment facility costs are classified as volume and/or strength related. For the Agency’s treatment facility, the costs were classified 55.3% to volume, 31.3% to BOD, and 13.4% to SS.



This classification was based on discussions with Agency staff and the nature of the treatment facility operations. Sewer lines are typically 100% volume related as they are in place simply to move the wastewater from the entry point to the treatment facility. General facility assets are classified to reflect all assets above. In other words, the general facility assets are in place to support both the collection and treatment operations of the Agency. The classification of general facilities therefore is a weighted average of the collection and treatment classification. A more detailed exhibit of the Agency’s functionalization and classification of facility investment can be found in the Technical Appendix, Exhibit 11.

Table 4 – 1 Summary of the Classification of Sewer Facilities				
Category	Volume Related	BOD Strength Related	SS Strength Related	Direct Assignment
Treatment	55.3%	31.3%	13.4%	0.0%
Collection	100.0%	0.0%	0.0%	0.0%
General Facilities	62.6%	26.2%	11.2%	0.0%

#### 4.6 Functionalization and Allocation of Operating Expenses

Operating expenses are generally functionalized and allocation in a manner similar to the corresponding facility account. For example, maintenance of collection lines is typically classified in the same manner (classification percentages) as the facility account for collection lines. This approach to classification of operating expenses was used for this analysis.

For the Agency’s study, the revenue requirement for FY 2019 was functionalized, allocated, and distributed. As noted earlier, the Agency utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, taxes, debt service, and capital improvements funded from rates. A more detailed review of the classification of revenue requirement can be found in the Technical Appendix, Exhibit 12. Table 4 – 2 below shows a summary of the cost of service allocation of the

Table 5 – 4 Summary of the Classification of the FY 2019 Revenue Requirement (\$000’s)				
Total	Volume	BOD	TSS	Direct Assignment
\$5,246	\$2,935	\$1,356	\$955	\$

#### 4.7 Major Assumptions of the Cost of Service Study

A number of key assumptions were used in the Agency’s cost of service study. Below is a brief discussion of the major assumptions used.

- ❖ The test period used for the cost of service analysis was FY 2019. The revenue and expense data was previously developed within the revenue requirement study.
- ❖ The revenue projections were based on the revenues collected from the member agencies, based on the current billing practices of the Agency.
- ❖ A cash basis approach was utilized which conforms to generally accepted cost of service approaches and methodologies.
- ❖ The classification of the Agency’s facilities was developed based upon generally accepted cost allocation techniques and Agency specific data.
- ❖ Member agency volumes used in this study were based on actual metered wastewater flow.

#### 4.8 Summary of the Cost of Service Results

In summary, the cost of service analysis began by functionalizing the Agency’s facility values and then the operating expenses. The functionalized facility and expense accounts were then classified into their various cost components. The individual classification totals were then allocated to the member agencies based on the appropriate allocation factors. The allocated expenses for each member agency were then aggregated to determine the total cost associated with each member agency. A summary of the detailed cost responsibility developed for each class of service is shown in Table 4 - 2.

Table 4 - 2 Summary of the Cost of Service Analysis (\$000s)				
Member Agency	Present Rate Revenues	Allocated Costs	\$ Difference	% Difference
<b>Total</b>	<b>\$5,103</b>	<b>\$5,246</b>	<b>(\$143)</b>	<b>2.8%</b>

The results of the cost of service analysis reflect the overall proposed rate adjustment of 2.8% in FY 2019 on a per EDU basis. It is important to understand that the results will not be “exact” each time the Agency updates its cost of service analysis. This is due to changing customer water consumption patterns which impact sewer flows, external impacts such as the recent drought, and how the Agency incurs costs. In addition, the changing usage patterns resulting from the historic drought which has changed the relationships between the customer classes and may not reflect typical winter water consumption used to distribute costs.

#### 4.9 Consultant’s Conclusions and Recommendations

As was presented in Table 4 - 2 based on the allocation of costs, the Agency’s rate structure is cost-based and equitable. It is recommended that the Agency review its rate structure, in conjunction with the cost of service analysis, to determine if revisions are necessary to better reflect how the Agency incurs costs.



## 5 Development of the Rate Design

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### 5.1 Introduction

The final step of the comprehensive rate study process is the design of sewer rates to collect the desired levels of revenues, based on the results of the revenue requirement and cost of service analysis. In reviewing sewer rate designs, consideration is given to the level of the rates and the structure of the rates.

### 5.2 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- ✓ Rates which are easy to understand from the customer's perspective
- ✓ Rates which are easy for the utility to administer
- ✓ Consideration of the customer's ability to pay
- ✓ Continuity, over time, of the rate making philosophy
- ✓ Policy considerations (encourage conservation, economic development, etc.)
- ✓ Provide revenue stability from month to month and year to year
- ✓ Promote efficient allocation of the resource
- ✓ Equitable and non-discriminatory (cost-based)

Many contemporary rate economists and regulatory agencies feel the last consideration, cost-based rates, should be of paramount importance and provide the primary guidance to utilities on rate structure and policy as well as meet the intent of Proposition 218.

### 5.3 Development of Cost-Based Sewer Rates

As mentioned, developing cost-based and equitable rates is of paramount importance in developing proposed sewer rates. While always a key consideration in developing rates, meeting the legal requirements, and documenting the steps taken to meet the requirements, has been in the forefront with the recent legal challenges in the State of California on utility rates. Given this, the development of the Agency's proposed sewer rates have been developed to meet the legal requirements of California Constitution article XIII D, section 6 (Article XIII D). A key component of Article XIII D is the development of rates which reflect the cost of providing service and are proportionally allocated. HDR would point out that there is no single methodology for equitably assigning costs to the various customer groups. The Water Environment Federation Manual of Practice #27 provides various methodologies which may be used to establish cost-based rates. Unfortunately, Article XII D is not prescriptive and does not provide a specific methodology for establishing rates. Given that, HDR developed the Agency's proposed sewer rates based on generally accepted rate setting methodologies to meet the requirements of Article XIII D.

HDR is of the opinion that the proposed rates meet the legal requirements of Article XIII D. HDR reaches this conclusion based upon the following:

- **The revenue derived from sewer rates does not exceed the funds required to provide the property related service (i.e., sewer service).** The proposed rates are designed to collect the overall revenue requirement of the Agency’s sewer system.
- **The revenues derived from sewer rates shall not be used for any purpose other than that for which the fee or charge is imposed.** The revenues derived from the Agency’s sewer rates are used exclusively to operate and maintain the Agency’s sewer system.
- **The amount of a fee or charge imposed upon a parcel or person as an incident of property ownership shall not exceed the proportional costs of the service attributable to the parcel.** The cost of service analysis was specifically developed to focus on the issue of proportional assignment of costs. Since there is only one class of service, allocation of costs is simplified on an EDU basis. The proposed rates reflect the system requirements and costs to provide service on an EDU basis.

#### 5.4 Review of the Overall Rate Adjustments

As indicated in the results of the revenue requirement analysis the recommendation is an annual adjustment of 2.8% in FY 2019 through FY 2023. The results of the cost of service analysis also showed that the Agency’s current rate structure is cost-based and equitable. The next section will discuss the proposed rate based on the Agency’s cost structure and reflects the cost of service analysis.

#### 5.5 Present and Proposed Sewer Rates

Currently, all customers are charged the same rate per EDU. This rate multiplied by the total EDUs in the combined service areas represents the total revenues to be collected through rates. This amount is then prorated among the member agencies based on each member agency’s pro-rata share of wastewater volume. In essence, the current revenue requirement is allocated to each member agency based on volume and results in a variable rate per EDU based on volume. Table 5 - 1 provides a summary of the present EDU charge for all customers.

Table 5 – 1 Summary of the Present and Proposed Sewer Rates						
	<i>Present Rates</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>Proposed FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>
	<i>\$/EDU</i>					
All Customers	\$204.34	\$210.06	\$215.94	\$222.21	\$228.87	\$235.74

It was determined that the current rate design was appropriate at this time for several reasons. First, the Agency incurs the majority of its costs on a fixed basis. Second, the occupancy characteristics associated with the service area, approximately 38% occupancy (62% vacancy or part-time rate), creates available capacity and additional fixed costs. As a result a large

proportion of the EDUs in the service area are connected to the system, but generate little wastewater volume. Third, if the Agency's costs are allocated more on volume than the member agency with higher occupancy and/or sewer volume pays for a disproportionate share of, or subsidizes other member agency's allocable system costs. If the Agency's costs were largely variable, this would be considered more equitable; however, the Agency's costs are largely fixed.

## 5.6 Waste Hauler Rates

As part of the study, the waste hauler rates were also reviewed. These rates are for those customers who bring pumped wastewater to the Agency's plant for disposal. Most frequently these are septic haulers which service those customers who don't receive sewer service and have a holding or septic tank. The current rate is based on a formulaic approach that reflects overall volumes and strength of the hauled waste. The Agency tests waste haulers from time to time to gain an understanding of the strength of the hauled waste. This information is used to establish the level of strength used as the basis for these customers. Given the most recent information on waste haulers, the rates were updated to reflect current costs. This resulted in the following proposed rates for the waste haulers:

Table 5 – 1 Summary of the Present and Proposed Sewer Rates						
	<i>Present Rates</i>	<b>FY 2019</b>	<b>FY 2020</b>	<i>Proposed</i> <b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
	<i>\$/ 1,000 gal</i>					
Chemical Toilet	\$60.45	\$62.14	\$63.88	\$65.74	\$67.71	\$69.74
Holding Tank	6.43	6.61	6.80	6.99	7.20	7.42
Septic Tank	72.33	74.36	76.44	78.65	81.01	83.44

## 5.7 Summary of the Sewer Rate Study

This completes the analysis for the Agency's sewer utility rates. It is recommended that annual adjustments of 2.8% are implemented from FY 2019 to FY 2020, 2.9% for FY 2021, and 3.0% in FY 2022 through FY 2023 to adequately fund the Agency's operating and capital costs. The rate structure suggested is consistent with the cost of service analysis, and reflects the actual cost to serve each of the member agencies, the Agency's fixed cost structure, and the occupancy characteristics of the Agency's service area.



## Technical Appendix

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**Big Bear Area Regional Wastewater Agency  
Comprehensive Sewer Rate Study  
Summary of the Revenue Requirement  
Exhibit 1**

	<i>Budget</i>			<i>Budget</i>		
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Revenues</b>						
Rate Revenues	\$5,091,581	\$5,102,819	\$5,114,058	\$5,125,297	\$5,136,535	\$5,147,774
Other Revenues	157,322	156,854	156,394	155,943	155,500	155,061
<b>Total Revenues</b>	<b>\$5,248,903</b>	<b>\$5,259,673</b>	<b>\$5,270,452</b>	<b>\$5,281,239</b>	<b>\$5,292,036</b>	<b>\$5,302,835</b>
<b>Expenses</b>						
Total Operations & Maintenance	\$3,862,934	\$4,043,887	\$4,295,164	\$4,557,048	\$4,802,278	\$5,054,452
Taxes and Transfers	3,572	3,652	3,787	3,927	4,073	4,223
Rate Funded Capital	800,000	800,000	800,000	800,000	800,000	800,000
Net Debt Service	455,106	381,993	296,271	337,328	337,328	337,328
Total Reserve Funding	71,602	173,020	165,627	31,045	(34,983)	(102,186)
<b>Total Revenue Requirement</b>	<b>\$5,193,215</b>	<b>\$5,402,552</b>	<b>\$5,560,849</b>	<b>\$5,729,348</b>	<b>\$5,908,695</b>	<b>\$6,093,818</b>
Bal. / (Def.) of Funds	\$55,688	(\$142,879)	(\$290,397)	(\$448,108)	(\$616,660)	(\$790,983)
% Rate Adjustment Required	-1.1%	2.8%	5.7%	8.7%	12.0%	15.4%
<b>Proposed Rate Adjustment</b>	<b>0.0%</b>	<b>2.8%</b>	<b>2.8%</b>	<b>2.9%</b>	<b>3.0%</b>	<b>3.0%</b>
Add'l Revenue with Proposed Rate Adj.	\$0	\$142,879	\$290,397	\$448,108	\$616,660	\$790,983
Bal. / (Def.) of Funds after Proposed Rate Adj.	\$55,688	\$0	\$0	\$0	\$0	\$0
<b>Additional Rate Adjustment Required</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Current Rate Structure - 1 EDU + 2,500 gallons</b>						
\$/EDU on Proposed Adjustment	\$204.34	\$210.06	\$215.94	\$222.21	\$228.87	\$235.74
Bill Difference - Annually		\$5.72	\$5.88	\$6.26	\$6.67	\$6.87
Cumulative Annual Difference		\$5.72	\$11.60	\$17.87	\$24.53	\$31.40
<b>DSC Ratio (all debt) - w/o Connection Fees Minimum 1.0 coverage</b>						
Before Rate Adjustment	2.41	1.88	1.81	1.34	0.91	0.46
After Proposed Rate Adjustment	2.41	2.10	2.35	2.17	2.05	1.93
<b>DSC Ratio (all debt) - w/Connection Fees Minimum 1.2 coverage</b>						
Before Rate Adjustment	2.76	2.19	2.18	1.72	1.28	0.84
After Proposed Rate Adjustment	2.76	2.41	2.72	2.55	2.43	2.30
<b>Ending Fund Balance</b>	\$6,578,402	\$6,627,102	\$6,275,224	\$6,204,511	\$6,171,378	\$6,071,257
<b>Target Minimum Fund Balance</b>	\$5,019,195	\$5,248,874	\$5,346,391	\$5,560,552	\$5,764,510	\$5,974,140

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Exhibit 2  
 Escalation Factors

	<i>Budget</i>	<i>Budget</i>	<i>Projected</i>				<i>Notes</i>
	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	
<b>Revenues</b>							
Customer Growth	Budget	0.2%	0.2%	0.2%	0.2%	0.2%	
Rental Income	Budget	1.3%	1.3%	1.3%	1.3%	1.3%	
Waste Disposal	Budget	0.0%	0.0%	0.0%	0.0%	0.0%	
Other Revenues	Budget	0.0%	0.0%	0.0%	0.0%	0.0%	
<b>Expenses</b>							
Salaries	Budget	8.0%	9.0%	7.0%	6.0%	6.0%	
Benefits	Budget	9.0%	11.3%	9.7%	7.7%	7.0%	
Materials & Supplies	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Repairs & Replacements	Budget	1.8%	3.0%	3.3%	3.5%	3.5%	
Equipment Rental	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	
Sludge Removal	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Chemicals	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	
Miscellaneous	Budget	1.5%	1.5%	1.5%	1.5%	1.5%	
Power	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	
Other Utilities	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Communications Expense	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Contractual Services - Other	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	
Contractual Services - Professional	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Permits & Fees	Budget	5.0%	5.0%	5.0%	5.0%	5.0%	
Property Tax Expense	Budget	3.7%	3.7%	3.7%	3.7%	3.7%	
Other Operating Expense	Budget	3.5%	3.5%	3.5%	3.5%	3.5%	
Insurance	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	
<b>Interest</b>		0.5%	0.6%	0.7%	0.8%	0.9%	1.0%
<b>New Debt Service [1]</b>							
Revenue Bond							
Term in Years		20	20	20	20	20	20
Rate		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

[1] - Only applicable if the use of long-term borrowing is assumed.



Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Exhibit 2  
 Escalation Factors

	<i>Budget</i>	<i>Budget</i>	<i>Projected</i>				<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Existing EDUs</b>							
City of Big Bear Lake	11,654	11,680	11,706	11,732	11,757	11,783	
Big Bear City CSD	12,004	12,031	12,057	12,084	12,111	12,137	
CSA 53B	1,259	1,262	1,264	1,267	1,269	1,272	
<b>New EDUs</b>							
City of Big Bear Lake	26	26	26	26	26	26	
Big Bear City CSD	27	27	27	27	27	27	
CSA 53B	3	3	3	3	3	3	
<b>Total New EDUs</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	
<b>Connection Fee Revenues</b>							
Connection Fee	\$3,670	\$3,670	\$3,670	\$3,670	\$3,670	\$3,670	
New EDUs	55	55	55	55	55	55	
<b>Connection Fee Revenues</b>	<b>\$201,850</b>	<b>\$201,850</b>	<b>\$201,850</b>	<b>\$201,850</b>	<b>\$201,850</b>	<b>\$201,850</b>	
<b>Number of Vacant Parcels</b>							
City of Big Bear Lake	1,521	1,495	1,469	1,444	1,418	1,398	
Big Bear City CSD	2,383	2,356	2,330	2,303	2,276	2,245	
CSA 53B	249	246	244	241	239	235	
<b>Reduction in Parcels</b>							
City of Big Bear Lake	(26)	(26)	(26)	(26)	(26)	(26)	
Big Bear City CSD	(27)	(27)	(27)	(27)	(27)	(27)	
CSA 53B	(3)	(3)	(3)	(3)	(3)	(3)	
<b>Total New EDUs</b>	<b>(55)</b>	<b>(55)</b>	<b>(55)</b>	<b>(55)</b>	<b>(55)</b>	<b>(55)</b>	
<b>Standby Charge - Revenues</b>							
Average Standby Charge							
City of Big Bear Lake	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	
Big Bear City CSD	20.49	20.49	20.49	20.49	20.49	20.49	
CSA 53B	23.86	23.86	23.86	23.86	23.86	23.86	
<b>Standby Charge Revenues</b>	<b>\$85,180</b>	<b>\$84,057</b>	<b>\$82,934</b>	<b>\$81,812</b>	<b>\$80,689</b>	<b>\$79,560</b>	

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Exhibit 3  
 Revenue Requirement

	<i>Budget</i>	<i>Budget</i>	<i>Projected</i>				<i>Notes</i>
	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	
<b>Revenues</b>							
<b>Rate Revenues</b>							
City of Big Bear Lake	\$2,381,419	\$2,386,676	\$2,391,932	\$2,397,189	\$2,402,445	\$2,407,702	As Customer Growth
Big Bear City CSD	2,452,897	2,458,312	2,463,726	2,469,140	2,474,555	2,479,969	As Customer Growth
CSA 53B	257,264	257,832	258,400	258,968	259,536	260,103	As Customer Growth
<b>Total Rate Revenues</b>	<b>\$5,091,581</b>	<b>\$5,102,819</b>	<b>\$5,114,058</b>	<b>\$5,125,297</b>	<b>\$5,136,535</b>	<b>\$5,147,774</b>	
<b>Other Revenues</b>							
Standby Charge	\$85,180	\$84,057	\$82,934	\$81,812	\$80,689	\$79,560	Calculated
Waste Disposal - Haulers	21,798	21,798	21,798	21,798	21,798	21,798	As Waste Disposal
Rental Income	50,344	50,998	51,661	52,333	53,013	53,703	As Rental Income
Other Revenue	0	0	0	0	0	0	As Other Revenues
<b>Total Other Revenues</b>	<b>\$157,322</b>	<b>\$156,854</b>	<b>\$156,394</b>	<b>\$155,943</b>	<b>\$155,500</b>	<b>\$155,061</b>	
<b>Total Revenues</b>	<b>\$5,248,903</b>	<b>\$5,259,673</b>	<b>\$5,270,452</b>	<b>\$5,281,239</b>	<b>\$5,292,036</b>	<b>\$5,302,835</b>	
<b>Expenses</b>							
<b>Salaries and Benefits</b>							
Salaries and Wages	\$1,301,112	\$1,345,159	\$1,466,223	\$1,568,859	\$1,662,990	\$1,762,770	As Salaries
Employee Benefits	713,810	771,572	858,760	942,059	1,014,598	1,085,620	As Benefits
Accrued Benefits Expense	13,239	13,812	15,373	16,864	18,162	19,434	As Benefits
Payroll Tax Expense	18,962	19,609	21,825	23,942	25,785	27,590	As Benefits
<b>Total Salaries and Benefits</b>	<b>\$2,047,123</b>	<b>\$2,150,152</b>	<b>\$2,362,181</b>	<b>\$2,551,724</b>	<b>\$2,721,536</b>	<b>\$2,895,414</b>	
<b>Power</b>							
Fuel for Power Production	\$361,760	\$300,642	\$312,667	\$325,174	\$338,181	\$351,708	As Power
Gas Admin Building	3,721	3,833	3,986	4,145	4,311	4,484	As Power
Gas Treatment Plant	7,137	7,351	7,645	7,951	8,269	8,600	As Power
Electricity - Treatment Plant	64,913	65,761	68,391	71,127	73,972	76,931	As Power
Electricity - Stations	61,555	61,529	63,990	66,550	69,212	71,980	As Power
Electricity - Admin Building	1,000	4,967	5,166	5,372	5,587	5,811	As Power
Electricity - Lucerne	925	953	991	1,030	1,072	1,115	As Power
<b>Total Power</b>	<b>\$501,011</b>	<b>\$445,035</b>	<b>\$462,836</b>	<b>\$481,350</b>	<b>\$500,604</b>	<b>\$520,628</b>	
<b>Sludge Removal</b>	<b>\$303,809</b>	<b>\$355,339</b>	<b>\$367,775</b>	<b>\$380,648</b>	<b>\$393,970</b>	<b>\$407,759</b>	As Sludge Removal

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 Comprehensive Sewer Rate Study  
 Exhibit 3  
 Revenue Requirement

	<i>Budget</i>	<i>Budget</i>	<i>Projected</i>				<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Chemicals</b>							
Odor Control-Disinfectant	\$12,466	\$12,384	\$12,879	\$13,395	\$13,930	\$14,488	As Chemicals
Polymer	25,096	29,080	30,243	31,453	32,711	34,019	As Chemicals
Laboratory Reagents	5,800	6,400	6,656	6,922	7,199	7,487	As Chemicals
<b>Total Chemicals</b>	<b>\$43,362</b>	<b>\$47,864</b>	<b>\$49,779</b>	<b>\$51,770</b>	<b>\$53,840</b>	<b>\$55,994</b>	
<b>Materials and Supplies</b>							
Office Equip, Supplies, Expense	\$46,437	\$45,318	\$46,905	\$48,546	\$50,245	\$52,004	As Materials & Supplies
Safety Supplies and Expenses	12,621	19,971	20,670	21,393	22,142	22,917	As Materials & Supplies
Laboratory Supplies	11,000	11,330	11,727	12,137	12,562	13,001	As Materials & Supplies
Fuel - Vehicles	19,500	13,200	13,662	14,140	14,635	15,147	As Materials & Supplies
Oils, Antifreeze, Filters	21,395	31,217	32,309	33,440	34,611	35,822	As Materials & Supplies
Degreasers and Solvents	2,200	2,266	2,345	2,427	2,512	2,600	As Materials & Supplies
Hardware, Cleaning, Painting	5,325	7,485	7,747	8,018	8,298	8,589	As Materials & Supplies
Ground Maint and Supplies	4,600	5,738	5,939	6,147	6,362	6,584	As Materials & Supplies
Electrical Supplies	4,150	4,275	4,424	4,579	4,739	4,905	As Materials & Supplies
Welding and Fab Supplies	1,450	1,494	1,546	1,600	1,656	1,714	As Materials & Supplies
Tools and Equipment	8,209	8,455	8,751	9,057	9,375	9,703	As Materials & Supplies
Plumbing Supplies	5,150	5,305	5,490	5,682	5,881	6,087	As Materials & Supplies
Tertiary Water	0	0	0	0	0	0	As Materials & Supplies
Purchase Discounts	0	0	0	0	0	0	As Materials & Supplies
<b>Total Materials and Supplies</b>	<b>\$142,037</b>	<b>\$156,052</b>	<b>\$161,514</b>	<b>\$167,167</b>	<b>\$173,018</b>	<b>\$179,074</b>	
<b>Repairs and Replacements</b>							
Mainline	\$44,050	\$44,832	\$46,176	\$47,700	\$49,370	\$51,098	As Repairs & Replacements
Pumps, Motors, Bearings	17,600	19,055	19,627	20,274	20,984	21,718	As Repairs & Replacements
Equip and Machinery	18,480	19,034	19,605	20,252	20,961	21,695	As Repairs & Replacements
Vehicles	17,350	18,600	19,158	19,790	20,483	21,200	As Repairs & Replacements
Generators	29,600	46,186	47,572	49,142	50,862	52,642	As Repairs & Replacements
Irrigation System - Lucerne	5,000	3,201	3,297	3,405	3,525	3,648	As Repairs & Replacements
Other	1,500	2,419	2,491	2,573	2,664	2,757	As Repairs & Replacements
One-Time Expense	0	30,000	0	0	0	0	
<b>Total Repairs and Replacements</b>	<b>\$133,580</b>	<b>\$183,326</b>	<b>\$157,926</b>	<b>\$163,138</b>	<b>\$168,847</b>	<b>\$174,757</b>	
<b>Equipment Rental</b>	<b>\$20,786</b>	<b>\$803</b>	<b>\$835</b>	<b>\$869</b>	<b>\$903</b>	<b>\$939</b>	As Equipment Rental

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Exhibit 3  
 Revenue Requirement

	<i>Budget</i>	<i>Budget</i>	<i>Projected</i>				<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Utilities Expense</b>							
Water	\$4,184	\$4,284	\$4,434	\$4,590	\$4,750	\$4,917	As Other Utilities
Trash Pick Up	5,153	5,277	5,461	5,652	5,850	6,055	As Other Utilities
Solid Waste Disposal	7,500	10,815	11,194	11,585	11,991	12,410	As Other Utilities
<b>Total Utilities Expense</b>	<b>\$16,837</b>	<b>\$20,376</b>	<b>\$21,089</b>	<b>\$21,827</b>	<b>\$22,591</b>	<b>\$23,382</b>	
<b>Communications Expense</b>							
SCADA	\$25,700	\$26,240	\$27,158	\$28,109	\$29,093	\$30,111	As Communications Expense
Radio Service and Repair	0	0	0	0	0	0	As Communications Expense
Television	587	605	626	648	671	694	As Communications Expense
Telephone Service and Repair	9,207	11,049	11,436	11,836	12,250	12,679	As Communications Expense
Internet Access	8,225	9,840	10,184	10,541	10,910	11,292	As Communications Expense
<b>Total Communications Expense</b>	<b>\$43,719</b>	<b>\$47,734</b>	<b>\$49,405</b>	<b>\$51,134</b>	<b>\$52,923</b>	<b>\$54,776</b>	
<b>Contractual Services - Other</b>							
Fiscal Agent and Bank Fees	\$3,802	\$5,257	\$5,415	\$5,577	\$5,745	\$5,917	As Contractual Services - Other
Testing	29,910	29,518	30,404	31,316	32,255	33,223	As Contractual Services - Other
Uniform, Towel and Rag	18,604	15,600	16,068	16,550	17,047	17,558	As Contractual Services - Other
Medical and EAP	14,899	13,710	14,121	14,545	14,981	15,430	As Contractual Services - Other
Security, Fire Alarm	2,662	2,742	2,824	2,909	2,996	3,086	As Contractual Services - Other
Web Site Hosting	115	391	403	415	427	440	As Contractual Services - Other
Landscaping	4,300	5,100	5,253	5,411	5,573	5,740	As Contractual Services - Other
Labor	9,600	9,888	10,185	10,490	10,805	11,129	As Contractual Services - Other
Heating, Ventilation, Air Cond	2,100	2,163	2,228	2,295	2,364	2,434	As Contractual Services - Other
Answering Service	660	680	700	721	743	765	As Contractual Services - Other
Janitorial	12,783	9,236	9,513	9,798	10,092	10,395	As Contractual Services - Other
<b>Total Contractual Services - Other</b>	<b>\$99,435</b>	<b>\$94,285</b>	<b>\$97,113</b>	<b>\$100,027</b>	<b>\$103,027</b>	<b>\$106,118</b>	
<b>Contractual Services - Professional</b>							
Engineering	\$55,510	\$30,000	\$31,050	\$32,137	\$33,262	\$34,426	As Contractual Services - Professional
Legal	95,004	147,238	152,391	157,725	163,245	168,959	As Contractual Services - Professional
Other	52,347	53,905	55,791	57,744	59,765	61,857	As Contractual Services - Professional
<b>Total Contractual Services - Professional</b>	<b>\$202,861</b>	<b>\$231,143</b>	<b>\$239,233</b>	<b>\$247,606</b>	<b>\$256,272</b>	<b>\$265,242</b>	
<b>Permits and Fees</b>	<b>\$150,199</b>	<b>\$151,465</b>	<b>\$159,038</b>	<b>\$166,990</b>	<b>\$175,340</b>	<b>\$184,107</b>	As Permits & Fees

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	Budget	Budget	Projected				Notes
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
<b>Insurance</b>							
Workman's Compensation	\$45,821	\$48,584	\$50,528	\$52,549	\$54,651	\$56,837	As Insurance
General Liability and Vehicle	47,485	54,348	56,522	58,783	61,134	63,579	As Insurance
Other Insurance Expense	0	0	0	0	0	0	As Insurance
<b>Total Insurance</b>	<b>\$93,307</b>	<b>\$102,932</b>	<b>\$107,049</b>	<b>\$111,331</b>	<b>\$115,785</b>	<b>\$120,416</b>	
<b>Other Expense</b>							
Memberships, Dues and Subscrip	\$15,030	\$12,905	\$13,357	\$13,824	\$14,308	\$14,809	As Other Operating Expense
Directors Fees	8,286	8,535	8,834	9,143	9,463	9,794	As Other Operating Expense
Public Notices	1,659	1,708	1,768	1,830	1,894	1,960	As Other Operating Expense
Education and Training	36,606	30,847	31,927	33,044	34,201	35,398	As Other Operating Expense
Advertising	3,288	3,387	3,505	3,628	3,755	3,886	As Other Operating Expense
<b>Total Other Expense</b>	<b>\$64,869</b>	<b>\$57,382</b>	<b>\$59,390</b>	<b>\$61,469</b>	<b>\$63,620</b>	<b>\$65,847</b>	
<b>Total Operations &amp; Maintenance</b>	<b>\$3,862,934</b>	<b>\$4,043,887</b>	<b>\$4,295,164</b>	<b>\$4,557,048</b>	<b>\$4,802,278</b>	<b>\$5,054,452</b>	
<b>Taxes and Transfers</b>							
Property Tax	\$3,572	\$3,652	\$3,787	\$3,927	\$4,073	\$4,223	As Property Tax Expense
<b>Total Taxes and Transfers</b>	<b>\$3,572</b>	<b>\$3,652</b>	<b>\$3,787</b>	<b>\$3,927</b>	<b>\$4,073</b>	<b>\$4,223</b>	
<b>Rate Funded Capital</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$896,429</b> FY 2017 Dep. Exp.
<b>Debt Service</b>							
Campus Bank Loan	\$576,084	\$467,576	\$359,068	\$359,068	\$359,068	\$359,068	Debt Schedule
Planned New Debt Service	0	180,110	180,110	180,110	180,110	180,110	Calc @ 3.5% for 15 yrs (per BBARWA)
New Long-Term Borrowing	0	0	0	0	0	0	Calc @ 5.0% for 20 yrs.
<b>Total Debt Service</b>	<b>\$576,084</b>	<b>\$647,686</b>	<b>\$539,178</b>	<b>\$539,178</b>	<b>\$539,178</b>	<b>\$539,178</b>	
<i>Less: Debt Service Funding</i>							
Growth Related Funding	\$120,978	\$265,693	\$242,907	\$201,850	\$201,850	\$201,850	
Rate Related Funding	0	0	0	0	0	0	
<b>Total Less Debt Service Funding</b>	<b>\$120,978</b>	<b>\$265,693</b>	<b>\$242,907</b>	<b>\$201,850</b>	<b>\$201,850</b>	<b>\$201,850</b>	
<b>Net Debt Service</b>	<b>\$455,106</b>	<b>\$381,993</b>	<b>\$296,271</b>	<b>\$337,328</b>	<b>\$337,328</b>	<b>\$337,328</b>	

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	Budget	Budget	Projected				Notes
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
<b>Reserve Funding</b>							
To / (From) Operations - Liquidity	\$0	\$251,528	\$115,627	\$96,045	\$120,017	\$52,814	
To / (From) Operations - Contingency	0	30,000	50,000	40,000	40,000	40,000	
To / (From) Capital and Replacement Fund	0	0	0	(105,000)	(195,000)	(195,000)	
To / (From) Debt Service Reserve	71,602	(108,508)	0	0	0	0	
<b>Total Reserve Funding</b>	<b>\$71,602</b>	<b>\$173,020</b>	<b>\$165,627</b>	<b>\$31,045</b>	<b>(\$34,983)</b>	<b>(\$102,186)</b>	
<b>Total Revenue Requirement</b>	<b>\$5,193,215</b>	<b>\$5,402,552</b>	<b>\$5,560,849</b>	<b>\$5,729,348</b>	<b>\$5,908,695</b>	<b>\$6,093,818</b>	
Bal. / (Def.) of Funds	\$55,688	(\$142,879)	(\$290,397)	(\$448,108)	(\$616,660)	(\$790,983)	
% Rate Adjustment Required	-1.1%	2.8%	5.7%	8.7%	12.0%	15.4%	
<b>Proposed Rate Adjustment</b>	<b>0.0%</b>	<b>2.8%</b>	<b>2.8%</b>	<b>2.9%</b>	<b>3.0%</b>	<b>3.0%</b>	
Add'l Revenue with Proposed Rate Adj.	\$0	\$142,879	\$290,397	\$448,108	\$616,660	\$790,983	
Bal. / (Def.) of Funds after Proposed Rate Adj.	\$55,688	\$0	\$0	\$0	\$0	\$0	
<b>Additional Rate Adjustment Required</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
<b>Current Rate Structure - 1 EDU + 2,500 gallons</b>							
\$/EDU on Proposed Adjustment	<b>\$204.34</b>	\$210.06	\$215.94	\$222.21	\$228.87	\$235.74	
Bill Difference - Annually		\$5.72	\$5.88	\$6.26	\$6.67	\$6.87	
Cumulative Annual Difference		\$5.72	\$11.60	\$17.87	\$24.53	\$31.40	
<b>DSC Ratio (all debt) - w/Connection Fees</b>							
Before Rate Adjustment	2.76	2.19	2.18	1.72	1.28	0.84	Minimum 1.2
After Proposed Rate Adjustment	2.76	2.41	2.72	2.55	2.43	2.30	Minimum 1.2
<b>DSC Ratio (all debt) - w/o Connection Fees</b>							
Before Rate Adjustment	2.41	1.88	1.81	1.34	0.91	0.46	Minimum 1.0
After Proposed Rate Adjustment	2.41	2.10	2.35	2.17	2.05	1.93	Minimum 1.0

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	Budget	Budget	Projected				Notes
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	
<b>Cash Reserves</b>							
<b>Operations Fund - Liquidity</b>							
<b>Beginning Balance</b>	\$1,921,654	\$1,977,342	\$2,228,870	\$2,344,496	\$2,440,541	\$2,560,558	
Plus: Additions	0	251,528	115,627	96,045	120,017	52,814	
Ending Fund Bal. / (Def.)	55,688	0	0	0	0	0	
Less: Uses	0	0	0	0	0	0	
<b>Ending Balance</b>	\$1,977,342	\$2,228,870	\$2,344,496	\$2,440,541	\$2,560,558	\$2,613,373	
<i>Min. Fund Balance - 50.6% of O&amp;M for Liquidity</i>	\$1,954,645	\$2,046,207	\$2,173,353	\$2,305,866	\$2,429,953	\$2,557,553	
<b>Operations Fund - Contingency</b>							
<b>Beginning Balance</b>	\$644,418	\$644,418	\$674,418	\$724,418	\$764,418	\$804,418	
Plus: Additions	0	30,000	50,000	40,000	40,000	40,000	
Less: Uses	0	0	0	0	0	0	
<b>Ending Balance</b>	\$644,418	\$674,418	\$724,418	\$764,418	\$804,418	\$844,418	
<i>Min. Fund Balance - 2 Mo. O&amp;M Contingency</i>	\$643,822	\$673,981	\$715,861	\$759,508	\$800,380	\$842,409	
<b>Capital and Replacement Fund</b>							
<b>Beginning Balance</b>	\$3,291,121	\$2,512,999	\$2,488,118	\$2,161,330	\$1,952,934	\$1,757,934	
Plus: Additions	0	0	0	0	0	0	
Less: Uses	(778,122)	(24,881)	(326,788)	(208,396)	(195,000)	(195,000)	
<b>Ending Balance</b>	\$2,512,999	\$2,488,118	\$2,161,330	\$1,952,934	\$1,757,934	\$1,562,934	
<i>Min. Fund Balance = 150% of Annual Dep. Exp.</i>	\$1,344,644	\$1,381,000	\$1,418,000	\$1,456,000	\$1,495,000	\$1,535,000	2.7% / Yr Growth
<b>Emergency Reserves</b>							
<b>Beginning Balance</b>	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	
Plus: Additions	0	0	0	0	0	0	
Less: Uses	0	0	0	0	0	0	
<b>Ending Balance</b>	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	
<i>Minimum Fund Balance</i>	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	
<b>Debt Service Fund</b>							
<b>Beginning Balance</b>	\$576,084	\$647,686	\$539,178	\$539,178	\$539,178	\$539,178	
Plus: Additions	71,602	0	0	0	0	0	
Less: Uses	0	(108,508)	0	0	0	0	
<b>Ending Balance</b>	\$647,686	\$539,178	\$539,178	\$539,178	\$539,178	\$539,178	
<i>Min. Fund Balance = Annual Debt Service</i>	\$576,084	\$647,686	\$539,178	\$539,178	\$539,178	\$539,178	

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	<i>Budget</i>		<i>Projected</i>				<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b><i>Connection Fee Fund</i></b>							
<b>Beginning Balance</b>	<b>\$267,117</b>	<b>\$295,957</b>	<b>\$196,518</b>	<b>\$5,802</b>	<b>\$7,440</b>	<b>\$9,290</b>	
Plus: Additions	201,850	201,850	201,850	201,850	201,850	201,850	
Less: Uses	(174,619)	(303,693)	(395,344)	(201,850)	(201,850)	(201,850)	
Interest Revenue	1,609	2,405	2,778	1,638	1,850	2,065	
<b>Ending Balance</b>	<b>\$295,957</b>	<b>\$196,518</b>	<b>\$5,802</b>	<b>\$7,440</b>	<b>\$9,290</b>	<b>\$11,355</b>	
<b>Total Ending Fund Balance</b>	<b>\$6,578,402</b>	<b>\$6,627,102</b>	<b>\$6,275,224</b>	<b>\$6,204,511</b>	<b>\$6,171,378</b>	<b>\$6,071,257</b>	
Less: Other Funds	(295,957)	(196,518)	(5,802)	(7,440)	(9,290)	(11,355)	
Less: Target Ending Minimum Balance	5,019,195	5,248,874	5,346,391	5,560,552	5,764,510	5,974,140	
<b>Target Ending Fund Bal. /(Def.)</b>	<b>\$1,263,250</b>	<b>\$1,181,709</b>	<b>\$923,031</b>	<b>\$636,518</b>	<b>\$397,577</b>	<b>\$85,763</b>	



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	<i>Budget</i>			<i>Budget</i>			<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Admin Building</b>							
Admin Building - Painting	\$16,500	\$7,800	\$0	\$0	\$0	\$0	
Land Improvements	0	18,100	0	0	0	0	
<b>Total Admin Building</b>	<b>\$16,500</b>	<b>\$25,900</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Effluent Disposal Assets</b>							
Cactus Flats Repair	\$0	\$85,000	\$0	\$0	\$0	\$0	
Monitoring Wells Rehab	0	0	0	0	0	36,114	
<b>Total Effluent Disposal Assets</b>	<b>\$0</b>	<b>\$85,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$36,114</b>	
<b>Interceptor System</b>							
15 Inch Gravity Sewer Pipeline	\$0	\$691,664	\$0	\$0	\$0	\$0	
8 Inch Gravity Sewer Pipeline	0	578,085	0	0	0	0	
Pump 3, Flygt 150 HP Rebuild	7,800	0	0	0	0	0	
<b>Total Interceptor System</b>	<b>\$7,800</b>	<b>\$1,269,749</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Flow Measuring Devices</b>							
RAS Flow Meter	\$0	\$0	\$0	\$0	\$15,289	\$0	
WAS Meter	0	0	0	0	9,909	0	
BB Flow Meter and Software	0	0	47,289	0	0	0	
Effluent Flow Meter	9,898	0	0	0	0	0	
Flow Meter CSD/CSA - OAC	16,444	0	0	0	0	0	
CSA Flow Meter	0	0	0	0	0	15,819	
Auxiliary Flow Meter	0	0	0	0	0	26,802	
<b>Total Flow Measuring Devices</b>	<b>\$26,343</b>	<b>\$0</b>	<b>\$47,289</b>	<b>\$0</b>	<b>\$25,198</b>	<b>\$42,621</b>	

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	<i>Budget</i>		<i>Budget</i>			<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	
<b>Other Equipment</b>						
SCADA PH and ORC Sensors	\$0	\$30,000	\$225,000	\$225,000	\$0	\$0
VFD T/P - Rotor 1 60 HP	13,450	0	0	0	0	0
VFD T/P - Rotor 2 60 HP	0	0	0	0	0	15,378
VFD T/P - Rotor 4 60 HP	13,592	0	0	0	0	0
VFD T/P - Rotor 5 60 HP	0	13,931	0	0	0	0
VFD T/P - Rotor 7 60 HP	0	14,076	0	0	0	0
VFD T/P - Rotor 8 60 HP	0	0	14,280	0	0	0
VFD Interceptor - Station 3	0	0	0	0	0	18,042
VFD Interceptor - LPS	0	0	26,225	0	0	0
Ground Fault Interruptor	25,071	0	0	0	0	0
Fire Alarm System Ops	0	0	13,726	0	0	0
Copier	0	0	0	16,680	0	0
Pipeline Detection Equipment	0	0	0	0	0	6,892
Backflow Device	0	10,000	0	0	0	0
<b>Total Other Equipment</b>	<b>\$52,113</b>	<b>\$68,007</b>	<b>\$279,231</b>	<b>\$241,680</b>	<b>\$0</b>	<b>\$40,312</b>
<b>Transportation Equipment</b>						
2002 Vehicle - Utility Cart Electric	\$0	\$0	\$0	\$16,958	\$0	\$0
2010 GMC 1/2 Ton	0	0	46,541	0	0	0
2004 Toyota 4-Runner	0	0	0	47,704	0	0
Utility Cart Gas	0	0	0	0	0	27,519
2004 Toyota Tundra	0	0	45,912	0	0	0
Bobcat Backhoe	0	0	0	0	0	89,369
Plow	0	10,000	0	0	0	0
Trailer	0	9,000	0	0	0	0
<b>Total Transportation Equipment</b>	<b>\$0</b>	<b>\$19,000</b>	<b>\$92,453</b>	<b>\$64,662</b>	<b>\$0</b>	<b>\$116,888</b>
<b>Other Capital Assets</b>						
Web Site	\$0	\$0	\$11,000	\$0	\$0	\$0
<b>Total Other Capital Assets</b>	<b>\$0</b>	<b>\$0</b>	<b>\$11,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Other Tangible Assets</b>						
Asphalt and Paving	\$35,000	\$0	\$100,000	\$0	\$250,000	\$250,000
<b>Total Other Tangible Assets</b>	<b>\$35,000</b>	<b>\$0</b>	<b>\$100,000</b>	<b>\$0</b>	<b>\$250,000</b>	<b>\$250,000</b>

	<i>Budget</i>			<i>Budget</i>			<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Power Generation Equipment</b>							
Cummins Rebuild	\$108,636	\$0	\$0	\$303,704	\$0	\$0	
Waukesha Rebuild	0	0	0	0	82,741	0	
Rolling Generator	94,013	0	0	0	0	0	
Station 1 Generator + Fuel System	0	67,328	0	0	0	0	
Station 2 Generator + Fuel System	0	0	72,116	0	0	0	
Station 3 Mobile Generator Install + Fuel System	0	0	0	120,000	0	0	
LPS Generator + Fuel System	0	0	0	0	152,213	0	
Station 1, 2, 3 LPS Stdby Connections	0	40,000	0	0	0	0	
<b>Total Power Generation Equipment</b>	<b>\$202,649</b>	<b>\$107,328</b>	<b>\$72,116</b>	<b>\$423,704</b>	<b>\$234,954</b>	<b>\$0</b>	
<b>Treatment Plant</b>							
AQMD Emissions Tester	\$0	\$0	\$14,462	\$0	\$0	\$0	
High Pressure Effluent Line	0	0	0	157,594	0	0	
Polyblend Unit Backup 1	0	0	0	0	9,980	0	
Shaft Mount Reducer - Ditch #3	0	0	0	15,756	0	0	
Belt Press	0	1,300,000	0	0	0	0	
Scum and Tank Drain Pump - 10 HP	0	0	0	0	18,318	0	
Submersible Pump - 15HP (2) ©	0	0	0	0	0	8,559	
Auxiliary Pump 3	0	0	0	0	46,500	0	
RAS Pump 2 Rebuild	4,857	0	0	0	0	0	
RAS Pump 3 Rebuild	4,857	0	0	0	0	0	
RAS Pump 1 7.5 HP Rebuild	4,743	0	0	0	0	0	
Effluent Pump 1 40 HP	0	0	0	0	0	12,681	
Effluent Pump 2 40 HP	0	0	0	0	0	12,681	
Effluent Pump 3 100 HP	0	0	26,169	0	0	0	
Effluent Pump 4 100 HP	0	0	0	0	0	28,181	
Pond #1 Reconstruction	566,230	0	0	0	0	0	
Pond #2 Reconstruction	566,230	0	0	0	0	0	
Bal Chamber/LEB - NEW	0	0	0	0	0	0	
Splitter Box Building	54,960	0	0	0	0	0	
Main Pump Building - Block Entry	12,000	0	0	0	0	0	
OAC Roof	0	12,300	0	0	0	0	
Headworks	12,000	50,000	404,811	0	0	0	
Bar Screen	0	0	129,289	0	0	0	
Grit Aeration, Air Lift Difuser	0	0	47,573	0	0	0	
Grit Washer	0	0	54,833	0	0	0	
<b>Total Treatment Plant</b>	<b>\$1,225,877</b>	<b>\$1,362,300</b>	<b>\$677,137</b>	<b>\$173,350</b>	<b>\$74,798</b>	<b>\$62,102</b>	

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Capital Improvement Plan  
 Exhibit 4

	<i>Budget</i>			<i>Budget</i>			<i>Notes</i>
	<i>FY 2018</i>	<i>FY 2019</i>	<i>FY 2020</i>	<i>FY 2021</i>	<i>FY 2022</i>	<i>FY 2023</i>	
<b>Studies and Maps</b>							
New Pipeline Maps	\$0	\$0	\$0	\$0	\$0	\$100,000	
Groundwater Quality Evaluation	52,719	0	0	0	0	0	
Irrigation Management Plan	4,262	0	0	0	0	0	
O&M Manual Lucerne Valley	8,500	0	0	0	0	0	
<i><b>Total Studies and Maps</b></i>	<i><b>\$65,481</b></i>	<i><b>\$0</b></i>	<i><b>\$0</b></i>	<i><b>\$0</b></i>	<i><b>\$0</b></i>	<i><b>\$100,000</b></i>	
<b>Future Unidentified Capital Improvements</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$215,050</b>	<b>\$151,963</b>	
<b>To Capital Reserves</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Total Capital Improvement Projects</b>	<b>\$1,631,763</b>	<b>\$2,937,284</b>	<b>\$1,279,226</b>	<b>\$903,396</b>	<b>\$800,000</b>	<b>\$800,000</b>	
<i>Less: Other Funding Sources</i>							
Operating Fund-Sewer	\$0	\$0	\$0	\$0	\$0	\$0	
Capital and Replacement Fund	778,122	24,881	326,788	103,396	0	0	
Connection Fees	53,641	38,000	152,438	0	0	0	
Proceeds from Debt	0	2,074,403	0	0	0	0	
Grants	0	0	0	0	0	0	
New Long-Term Borrowing	0	0	0	0	(0)	0	Calculated
<i><b>Total Other Funding Sources</b></i>	<i><b>\$831,763</b></i>	<i><b>\$2,137,284</b></i>	<i><b>\$479,226</b></i>	<i><b>\$103,396</b></i>	<i><b>(\$0)</b></i>	<i><b>\$0</b></i>	
<b>Rate Funded Capital</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	<b>\$800,000</b>	

**Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Debt Service Schedules  
 Exhibit 5**

<b>Year</b>	<b>Campus Bank Loan</b>	<b>Planned New Debt</b>	<b>Total</b>
FY 2018	\$576,084	\$0	\$576,084
FY 2019	467,576	180,110	647,686
FY 2020	359,068	180,110	539,178
FY 2021	359,068	180,110	539,178
FY 2022	359,068	180,110	539,178
FY 2023	359,068	180,110	539,178
FY 2024	359,068	180,110	539,178
FY 2025	359,068	180,110	539,178
FY 2026	359,068	180,110	539,178
FY 2027	0	180,110	180,110
FY 2028	0	180,110	180,110
FY 2029	0	180,110	180,110
FY 2030	0	180,110	180,110
FY 2031	0	180,110	180,110
FY 2032	0	180,110	180,110
FY 2033	0	180,110	180,110
FY 2034	0	0	0
FY 2035	0	0	0
FY 2036	0	0	0
FY 2037	0	0	0
FY 2038	0	0	0
FY 2039	0	0	0
FY 2040	0	0	0
FY 2041	0	0	0
FY 2042	0	0	0
FY 2043	0	0	0
FY 2044	0	0	0
FY 2045	0	0	0
FY 2046	0	0	0
FY 2047	0	0	0
	<b>\$3,557,132</b>	<b>\$2,701,653</b>	<b>\$6,258,785</b>

Budget FY 2018 Rate	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Total	
<b>City of Big Bear Lake</b>														
	<i>\$ / EDU / Yr</i>													
Fixed Rate	\$204.34	11,654.20	11,654	11,654	11,654	11,554	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654
	<i>\$ / 1,000 gallons</i>													
Variable Rate	\$0.00	417,750	0	0	0	0	0	0	0	0	0	0	0	417,750
<b>Revenues</b>														
Fixed Rate		\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$2,381,419
Variable Rate		0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Revenues</b>		<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$198,452</b>	<b>\$2,381,419</b>
<b>Big Bear CSD</b>														
	<i>\$ / EDU / Yr</i>													
Fixed Rate	\$204.34	12,004.00	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004
	<i>\$ / 1,000 gallons</i>													
Variable Rate	\$0.00	337,980	0	0	0	0	0	0	0	0	0	0	0	337,980
<b>Revenues</b>														
Fixed Rate		\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$204,408	\$2,452,897
Variable Rate		0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Revenues</b>		<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$204,408</b>	<b>\$2,452,897</b>
<b>CSA 53B</b>														
	<i>\$ / EDU / Yr</i>													
Fixed Rate	\$204.34	1,259.00	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259
	<i>\$ / 1,000 gallons</i>													
Variable Rate	\$0.00	32,690	0	0	0	0	0	0	0	0	0	0	0	32,690
<b>Revenues</b>														
Fixed Rate		\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$21,439	\$257,264
Variable Rate		0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Revenues</b>		<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$21,439</b>	<b>\$257,264</b>

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Revenue at Present Rates  
 Exhibit 6

Budget FY 2018 Rate	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Total	
<b>Summary</b>														
<b>Number of EDUs <sup>[2]</sup></b>														
City of Big Bear Lake	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654	11,654
Big Bear CSD	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004	12,004
CSA 53B	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259
<b>Total Number of Customers</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>	<b>24,917</b>
<b>Consumption (CCF)</b>														
City of Big Bear Lake	417,750	0	0	0	0	0	0	0	0	0	0	0	0	417,750
Big Bear CSD	337,980	0	0	0	0	0	0	0	0	0	0	0	0	337,980
CSA 53B	32,690	0	0	0	0	0	0	0	0	0	0	0	0	32,690
<b>Total Consumption</b>	<b>788,420</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>788,420</b>
<b>Total Revenue <sup>[1]</sup></b>														
City of Big Bear Lake	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$198,452	\$2,381,419
Big Bear CSD	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	204,408	2,452,897
CSA 53B	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	21,439	257,264
<b>Total Revenues</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$424,298</b>	<b>\$5,091,581</b>
														<b>FY 2018 Budget</b>
														<b>\$5,091,576</b>
														<i>Difference</i>
														<b>\$5</b>
														<i>Percent</i>
														<b>0.0%</b>

**Notes**

[1] - Rates are FY 2017 actual

[2] - EDUs are FY 2017

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Volume Allocation Factor  
 Exhibit 7

	<b>FY 2017</b>	<b>0.0%</b>	<b>Total Annual</b>	<b>Avg. Daily</b>	<b>% of</b>	
	<b>Annual Flow</b>	<b>Inflow and</b>	<b>Flow at Plant</b>	<b>Flow At</b>	<b>Total</b>	<i>Flow / EDU</i>
	<b>(1,000 gal) <sup>[1]</sup></b>	<b>Infiltration <sup>[2]</sup></b>	<b>(1,000 gal)</b>	<b>Plant (MGD)</b>		
All Customers	788,420	0	788,420	2.16	100.0%	31.57
<b>Total</b>	<b>788,420</b>		<b>788,420</b>	<b>2.16</b>	<b>100.0%</b>	
		<b>Actual Flow <sup>[3]</sup></b>	<b>794,760</b>	<b>2.18</b>		
					<b>(VOL)</b>	

**Notes**

- [1] - Based on BBARWA Member Agency Flow
- [2] - Estimated
- [3] - Provided by BBARWA



**Big Bear Area Regional Wastewater Agency**  
**Comprehensive Sewer Rate Study**  
**Customer Allocation Factor**  
**Exhibit 8**

	<i>Actual Customer</i>		<i>Customer Service &amp; Accounting</i>			
	Number of EDUs <sup>[1]</sup>	% of Total	Number of EDUs <sup>[1]</sup>	Weighting Factor	Weighted Customer	% of Total
All Customers	24,972	100.0%	24,972	1.00	24,972	100.0%
<b>Total</b>	<b>24,972</b>	<b>100.0%</b>	<b>24,972</b>		<b>24,972</b>	<b>100.0%</b>
		<b>(AC)</b>				<b>(WCA)</b>

**Notes**

[1] - EDUs are taken from Exhibit 5 and adjusted for growth

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Strength Allocation Factor  
 Exhibit 9

	Annual Flow (1,000 gal)	Bio-Chemical Oxygen Demand <sup>[1]</sup>			Suspended Solids <sup>[2]</sup>		
		Avg. Factor (mg/l)	Calculated Pounds	% of Total	Avg. Factor (mg/l)	Calculated Pounds	% of Total
All Customers	788,420	245	1,610,979	100.0%	275	1,808,241	100.0%
<b>Total</b>	<b>788,420</b>		<b>1,610,979</b>	<b>100.0%</b>		<b>1,808,241</b>	<b>100.0%</b>
		245	273 Avg BOD <sup>[3]</sup>		275	276 Avg SS <sup>[3]</sup>	
			(BOD)			(SS)	

**Notes**

- [1] - Based on June - July 2010 Sampling
- [2] - Based on same ratio as BOD samples
- [3] - Average BOD & SS loading Provided by the Agency

**Big Bear Area Regional Wastewater Agency**  
**Comprehensive Sewer Rate Study**  
**Revenue Related Allocation Factor**  
**Exhibit 10**

	Test Year FY 2019	% of Total
All Customers	\$5,102,819	100.0%
<b>Total Rate Revenues</b>	<b>\$5,102,819</b>	<b>100.0%</b>

**(RR)**

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Net Plant In Service  
 Exhibit 11.1

	As of 6.30.17	Volume (VOL)	Strength Related		Direct (DA)	Basis of Classification
			Bio-Oxygen Demand (BOD)	Suspended Solids (SS)		
<b>Treatment</b>						
Effluent Disposal Assets	\$884,871	\$884,871	\$0	\$0	\$0	100.0% VOL
Flow Measuring Devices	119,682	119,682	0	0	0	100.0% VOL
Treatment Plant	8,520,258	4,260,129	2,982,090	1,278,039	0	50.0% VOL 35.0% BOD 15.0% SS
Power Generation	1,503,069	830,797	470,591	201,682	0	As Above
Land	816,823	451,485	255,736	109,601	0	As Above
<b>Total Treatment</b>	<b>\$11,844,702</b>	<b>\$6,546,964</b>	<b>\$3,708,417</b>	<b>\$1,589,322</b>	<b>\$0</b>	
<b>Collection</b>						
Interceptor System	\$1,693,857	\$1,693,857	\$0	\$0	\$0	100.0% VOL
Other Equipment	620,516	620,516	0	0	0	100.0% VOL
<b>Total Collection</b>	<b>\$2,314,373</b>	<b>\$2,314,373</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Total Plant Before General Plant</b>	<b>\$14,159,075</b>	<b>\$8,861,337</b>	<b>\$3,708,417</b>	<b>\$1,589,322</b>	<b>\$0</b>	
<i>Factor PBGP</i>	<i>100.0%</i>	<i>62.6%</i>	<i>26.2%</i>	<i>11.2%</i>	<i>0.0%</i>	<i>Plant Before General Plant</i>
<b>General Plant</b>						
Administration Building	\$1,320,465	\$826,402	\$345,844	\$148,219	\$0	As PBGP
Other Tangible Plant	506,023	316,690	132,533	56,800	0	As PBGP
Studies and Maps	97,559	61,056	25,552	10,951	0	As PBGP
Transportation Equipment	396,407	248,088	103,823	44,496	0	As PBGP
<b>Total General Plant</b>	<b>\$2,320,454</b>	<b>\$1,452,236</b>	<b>\$607,752</b>	<b>\$260,465</b>	<b>\$0</b>	
<b>Total Net Plant in Service</b>	<b>\$16,479,529</b>	<b>\$10,313,573</b>	<b>\$4,316,170</b>	<b>\$1,849,787</b>	<b>\$0</b>	

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Functionalization and Classification of  
 Revenue Requirement  
 Exhibit 12.1

	Expenses FY 2019	Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Direct (DA)	Basis of Classification
<b>Expenses</b>						
<b>Salaries and Benefits</b>						
Salaries and Wages	\$1,345,159	\$841,856	\$352,312	\$150,991	\$0	As Treat. & Collect.
Employee Benefits	771,572	482,882	202,083	86,607	0	As Treat. & Collect.
Accrued Benefits Expense	13,812	8,644	3,618	1,550	0	As Treat. & Collect.
Payroll Tax Expense	19,609	12,272	5,136	2,201	0	As Treat. & Collect.
<b>Total Salaries and Benefits</b>	<b>\$2,150,152</b>	<b>\$1,345,654</b>	<b>\$563,148</b>	<b>\$241,349</b>	<b>\$0</b>	
<b>Power</b>						
Fuel for Power Production	\$300,642	\$166,175	\$94,127	\$40,340	\$0	As Treatment
Gas Admin Building	3,833	2,399	1,004	430	0	As Net Plant in Service
Gas Treatment Plant	7,351	4,063	2,302	986	0	As Treatment
Electricity - Treatment Plant	65,761	36,348	20,589	8,824	0	As Treatment
Electricity - Stations	61,529	61,529	0	0	0	100.0% VOL
Electricity - Admin Building	4,967	3,109	1,301	558	0	As Net Plant in Service
Electricity - Lucerne	953	953	0	0	0	100.0% VOL
<b>Total Power</b>	<b>\$445,035</b>	<b>\$274,575</b>	<b>\$119,322</b>	<b>\$51,138</b>	<b>\$0</b>	
<b>Sludge Removal</b>	<b>\$355,339</b>	<b>\$0</b>	<b>\$0</b>	<b>\$355,339</b>	<b>\$0</b>	100.0% SS
<b>Chemicals</b>						
Odor Control-Disinfectant	\$12,384	\$6,845	\$3,877	\$1,662	\$0	As Treatment
Polymer	29,080	16,073	9,105	3,902	0	As Treatment
Laboratory Reagents	6,400	3,537	2,004	859	0	As Treatment
<b>Total Chemicals</b>	<b>\$47,864</b>	<b>\$26,456</b>	<b>\$14,986</b>	<b>\$6,422</b>	<b>\$0</b>	

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Functionalization and Classification of  
 Revenue Requirement  
 Exhibit 12.1

	Expenses FY 2019	Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Direct (DA)	Basis of Classification
<b>Materials and Supplies</b>						
Office Equip, Supplies, Expense	\$45,318	\$28,362	\$11,869	\$5,087	\$0	As Treat. & Collect.
Safety Supplies and Expenses	19,971	12,498	5,231	2,242	0	As Treat. & Collect.
Laboratory Supplies	11,330	7,091	2,967	1,272	0	As Treat. & Collect.
Fuel - Vehicles	13,200	8,261	3,457	1,482	0	As Treat. & Collect.
Oils, Antifreeze, Filters	31,217	19,537	8,176	3,504	0	As Treat. & Collect.
Degreasers and Solvents	2,266	1,418	593	254	0	As Treat. & Collect.
Hardware, Cleaning, Painting	7,485	4,684	1,960	840	0	As Treat. & Collect.
Ground Maint and Supplies	5,738	3,591	1,503	644	0	As Treat. & Collect.
Electrical Supplies	4,275	2,675	1,120	480	0	As Treat. & Collect.
Welding and Fab Supplies	1,494	935	391	168	0	As Treat. & Collect.
Tools and Equipment	8,455	5,292	2,215	949	0	As Treat. & Collect.
Plumbing Supplies	5,305	3,320	1,389	595	0	As Treat. & Collect.
Tertiary Water	0	0	0	0	0	As Treat. & Collect.
Purchase Discounts	0	0	0	0	0	As Treat. & Collect.
<b>Total Materials and Supplies</b>	<b>\$156,052</b>	<b>\$97,664</b>	<b>\$40,872</b>	<b>\$17,517</b>	<b>\$0</b>	
<b>Repairs and Replacements</b>						
Mainline	\$44,832	\$28,057	\$11,742	\$5,032	\$0	As Treat. & Collect.
Pumps, Motors, Bearings	19,055	11,925	4,991	2,139	0	As Treat. & Collect.
Equip and Machinery	19,034	11,913	4,985	2,137	0	As Treat. & Collect.
Vehicles	18,600	11,641	4,872	2,088	0	As Treat. & Collect.
Generators	46,186	28,905	12,097	5,184	0	As Treat. & Collect.
Irrigation System - Lucerne	3,201	2,003	838	359	0	As Treat. & Collect.
Other	2,419	1,514	633	271	0	As Treat. & Collect.
One-Time Expense	30,000	18,775	7,857	3,367	0	As Treat. & Collect.
<b>Total Repairs and Replacements</b>	<b>\$183,326</b>	<b>\$114,733</b>	<b>\$48,015</b>	<b>\$20,578</b>	<b>\$0</b>	
<b>Equipment Rental</b>	<b>\$803</b>	<b>\$503</b>	<b>\$210</b>	<b>\$90</b>	<b>\$0</b>	As Net Plant in Service

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Functionalization and Classification of  
 Revenue Requirement  
 Exhibit 12.1

	Expenses FY 2019	Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Direct (DA)	Basis of Classification
<b>Utilities Expense</b>						
Water	\$4,284	\$2,681	\$1,122	\$481	\$0	As Net Plant in Service
Trash Pick Up	5,277	3,302	1,382	592	0	As Net Plant in Service
Solid Waste Disposal	10,815	6,768	2,833	1,214	0	As Net Plant in Service
<b>Total Utilities Expense</b>	<b>\$20,376</b>	<b>\$12,752</b>	<b>\$5,337</b>	<b>\$2,287</b>	<b>\$0</b>	
<b>Communications Expense</b>						
SCADA	\$26,240	\$26,240	\$0	\$0	\$0	100.0% VOL
Radio Service and Repair	0	0	0	0	0	100.0% VOL
Television	605	605	0	0	0	100.0% VOL
Telephone Service and Repair	11,049	11,049	0	0	0	100.0% VOL
Internet Access	9,840	9,840	0	0	0	100.0% VOL
<b>Total Communications Expense</b>	<b>\$47,734</b>	<b>\$47,734</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Contractual Services - Other</b>						
Fiscal Agent and Bank Fees	\$5,257	\$3,290	\$1,377	\$590	\$0	As Net Plant in Service
Testing	29,518	18,474	7,731	3,313	0	As Net Plant in Service
Uniform, Towel and Rag	15,600	9,763	4,086	1,751	0	As Net Plant in Service
Medical and EAP	13,710	8,580	3,591	1,539	0	As Net Plant in Service
Security, Fire Alarm	2,742	1,716	718	308	0	As Net Plant in Service
Web Site Hosting	391	245	102	44	0	As Net Plant in Service
Landscaping	5,100	3,192	1,336	572	0	As Net Plant in Service
Labor	9,888	6,188	2,590	1,110	0	As Net Plant in Service
Heating, Ventilation, Air Cond	2,163	1,354	567	243	0	As Net Plant in Service
Answering Service	680	425	178	76	0	As Net Plant in Service
Janitorial	9,236	5,780	2,419	1,037	0	As Net Plant in Service
<b>Total Contractual Services - Other</b>	<b>\$94,285</b>	<b>\$59,007</b>	<b>\$24,694</b>	<b>\$10,583</b>	<b>\$0</b>	

Big Bear Area Regional Wastewater Agency  
 Comprehensive Sewer Rate Study  
 Functionalization and Classification of  
 Revenue Requirement  
 Exhibit 12.1

	Expenses FY 2019	Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Direct (DA)	Basis of Classification
<b>Contractual Services - Professional</b>						
Engineering	\$30,000	\$16,582	\$9,393	\$4,025	\$0	As Treatment
Legal	147,238	92,148	38,563	16,527	0	As Net Plant in Service
Other	53,905	33,736	14,118	6,051	0	As Net Plant in Service
<b>Total Contractual Services - Professional</b>	<b>\$231,143</b>	<b>\$142,466</b>	<b>\$62,074</b>	<b>\$26,603</b>	<b>\$0</b>	
<b>Permits and Fees</b>	<b>\$151,465</b>	\$94,793	\$39,670	\$17,002	\$0	As Net Plant in Service
<b>Insurance</b>						
Workman's Compensation	\$48,584	\$30,406	\$12,725	\$5,453	\$0	As Net Plant in Service
General Liability and Vehicle	54,348	34,013	14,234	6,100	0	As Net Plant in Service
Other Insurance Expense	0	0	0	0	0	As Net Plant in Service
<b>Total Insurance</b>	<b>\$102,932</b>	<b>\$64,419</b>	<b>\$26,959</b>	<b>\$11,554</b>	<b>\$0</b>	
<b>Other Expense</b>						
Memberships, Dues and Subscrip	\$12,905	\$12,905	\$0	\$0	\$0	100.0% VOL
Directors Fees	8,535	8,535	0	0	0	100.0% VOL
Public Notices	1,708	1,708	0	0	0	100.0% VOL
Education and Training	30,847	30,847	0	0	0	100.0% VOL
Advertising	3,387	3,387	0	0	0	100.0% VOL
<b>Total Other Expense</b>	<b>\$57,382</b>	<b>\$57,382</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Total Operations &amp; Maintenance</b>	<b>\$4,043,887</b>	<b>\$2,338,138</b>	<b>\$945,288</b>	<b>\$760,462</b>	<b>\$0</b>	
<b>Taxes and Transfers</b>						
Property Tax	\$3,652	\$2,112	\$854	\$687	\$0	As O&M
<b>Total Taxes and Transfers</b>	<b>\$3,652</b>	<b>\$2,112</b>	<b>\$854</b>	<b>\$687</b>	<b>\$0</b>	
<b>Rate Funded Capital</b>	<b>\$800,000</b>	\$442,187	\$250,469	\$107,344	\$0	As Net Plant in Service



**Big Bear Area Regional Wastewater Agency  
Comprehensive Sewer Rate Study  
Functionalization and Classification of  
Revenue Requirement  
Exhibit 12.1**

	Expenses FY 2019	Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Direct (DA)	Basis of Classification
<b>Debt Service</b>						
Campus Bank Loan	\$467,576	\$258,445	\$146,392	\$62,739	\$0	As Net Plant in Service
Planned New Debt Service	180,110	99,553	56,390	24,167	0	As Treatment Plant
New Long-Term Borrowing	0	0	0	0	0	As Net Plant in Service
Total Debt Service	\$647,686	\$357,998	\$202,782	\$86,906	\$0	
<i>Less: Debt Service Funding</i>						
Growth Related Funding	\$265,693	\$146,858	\$83,185	\$35,651	\$0	As Debt
Rate Related Funding	0	0	0	0	0	As Debt
Total Less Debt Service Funding	\$265,693	\$146,858	\$83,185	\$35,651	\$0	
<b>Net Debt Service</b>	<b>\$381,993</b>	<b>\$211,140</b>	<b>\$119,597</b>	<b>\$51,256</b>	<b>\$0</b>	
<b>Reserve Funding</b>						
To / (From) Operations - Liquidity	\$251,528	\$145,431	\$58,797	\$47,300	\$0	As O&M Expenses
To / (From) Operations - Contingency	30,000	17,346	7,013	5,642	0	As O&M Expenses
To / (From) Capital and Replacement Fund	0	0	0	0	0	As O&M Expenses
To / (From) Debt Service Reserve	(108,508)	(62,738)	(25,365)	(20,405)	0	As O&M Expenses
Total Reserve Funding	\$173,020	\$100,039	\$40,445	\$32,537	\$0	
<b>Total Revenue Requirement</b>	<b>\$5,402,552</b>	<b>\$3,093,615</b>	<b>\$1,356,652</b>	<b>\$952,285</b>	<b>\$0</b>	
<b>Less: Other Revenues</b>						
Standby Charge	\$84,057	\$84,057	\$0	\$0	\$0	100.0% VOL
Waste Disposal - Haulers	21,798	21,798	0	0	0	100.0% VOL
Rental Income	50,998	50,998	0	0	0	100.0% VOL
Other Revenue	0	0	0	0	0	100.0% VOL
<b>Total Other Revenues</b>	<b>\$156,854</b>	<b>\$156,854</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Net Revenue Requirement</b>	<b>\$5,245,698</b>	<b>\$2,936,761</b>	<b>\$1,356,652</b>	<b>\$952,285</b>	<b>\$0</b>	

**Big Bear Area Regional Wastewater Agency**  
**Comprehensive Sewer Rate Study**  
**Allocation of Revenue Requirement**  
**Exhibit 13**

Classification Components	FY 2019 Net Revenue Requirement	All Customers	<i>Allocation Factor</i>
<b>Volume Related</b>	<b>\$2,936,761</b>	\$2,936,761	(VOL)
<b>Strength Related</b>			
Bio-oxygen Demand	\$1,356,652	\$1,356,652	(BOD)
Suspended Solids	952,285	952,285	(SS)
<b><i>Total Strength Related</i></b>	<b>\$2,308,937</b>	<b>\$2,308,937</b>	
<b>Direct Assignment</b>	<b>\$0</b>	<b>\$0</b>	
<b>Net Revenue Requirement</b>	<b>\$5,245,698</b>	<b>\$5,245,698</b>	

**Big Bear Area Regional Wastewater Agency**  
**Comprehensive Sewer Rate Study**  
**Summary of Cost of Service Analysis**  
**Exhibit 14**

	FY 2019 Expenses	All Customers
Revenues at Present Rates <sup>[1]</sup>	\$5,102,819	\$5,102,819
Allocated Revenue Requirement	\$5,245,698	\$5,245,698
<b><i>Balance/(Deficiency) of Funds</i></b>	<b><i>(\$142,879)</i></b>	<b><i>(\$142,879)</i></b>
<b>Required % Rate Adjustment</b>	<b>2.8%</b>	<b>2.8%</b>

[1] - Revenues are based on current per EDU charge, not adjusted for volume

**Big Bear Area Regional Wastewater Agency**  
**Comprehensive Sewer Rate Study**  
**Average Unit Cost**  
**Exhibit 15**

	FY 2019 Expenses	All Customers
<b>Volume \$ / 1,000 gallon</b>	<b>\$3.72</b>	\$3.72
<b>Strength \$ / EDU</b>		
Bio-oxygen Demand	\$54.33	\$54.33
Suspended Solids	38.13	38.13
<b>Total Strength \$ / EDU</b>	<b>\$92.46</b>	\$92.46
<b>Average Allocated Cost \$ / EDU</b>	<b>\$210.06</b>	\$210.06
<b>Average Total Revenue \$ / EDU</b>	<b>\$204.34</b>	\$204.34
<b>Average Total Cost / 1,000 gallons</b>	<b>\$6.65</b>	\$6.65
<b>Basic Data</b>		
Annual Volumes (1,000 gallons)	788,420	788,420
Number of Accounts (EDUs)	24,972	24,972



Big Bear Area Regional  
Wastewater Agency  
*Rick Herrick – Chairman*  
*Karyn Oxandaboure – Vice Chairman*  
*Liz Harris, Ed.D. – Secretary*  
*David Caretto – Director*  
*John Green – Director*

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**AGENDA ITEM: 10.E**

**MEETING DATE:** March 7, 2018

**TO:** Governing Board of the Big Bear Area Regional Wastewater Agency

**FROM:** David Lawrence, P.E., General Manager 

**REVIEWED BY:** Jennifer McCullar, Finance Manager 

**SUBJECT:** Amendment to Joint Exercise of Powers Agreement (the JPA)

**DISCUSSION:**

Over the past several months, the Agency has been working on putting into place new debt to finance the belt press project and a new pipeline (to be constructed in FY 2019). Both projects are in the FY 2019 capital budget. We have received two preliminary term sheets related to such financing. During the preliminary review of our documentation, one of the lending institutions expressed concerns that the JPA includes a termination date of 2024 and that any financing would be contingent on the extension of the agreement beyond the term of the financing. After discussions with legal counsel, there is no reason for the termination date and removing the termination provision is recommended. Legal counsel recommends that the JPA continue until terminated by the parties by their mutual written consent.

**FINANCIAL IMPACT:**

No financial impact.

**RECOMMENDATION:**

Authorize the General Manager to work with the member agencies in adopting the amendment.

Attachments: 1) Sixth Amendment to The Joint Exercise of Powers Agreement Between Big Bear City Community Services District, City of Big Bear Lake and San Bernardino County Creating The Big Bear Area Regional Wastewater Agency and 2) Agreement Amending Operating Agreements No. 1 and No. 2

Moved: \_\_\_\_\_ Second: \_\_\_\_\_ Aye: \_\_\_\_\_ Nay: \_\_\_\_\_ Abstain/Absent: \_\_\_\_\_

Approved Date: \_\_\_\_\_ Witness: \_\_\_\_\_

Secretary of the Governing Board

**SIXTH AMENDMENT TO THE JOINT  
EXERCISE OF POWERS AGREEMENT  
BETWEEN BIG BEAR CITY COMMUNITY SERVICES DISTRICT,  
CITY OF BIG BEAR LAKE AND  
SAN BERNARDINO COUNTY CREATING THE  
BIG BEAR AREA REGIONAL WASTEWATER AGENCY**

**1. Parties and Date.**

This Sixth Amendment to the Joint Exercise of Powers Agreement (“Sixth Amendment”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 201\_, by and between the Big Bear City Community Services District (“BBCCSD”), the City of Big Bear Lake (“City”), and the County of San Bernardino (“County”) on behalf of San Bernardino County Service Area 53. BBCCSD, the City, and the County are sometimes referred to herein individually as “Party” or collectively as the “Parties.”

**2. Recitals.**

2.1 WHEREAS, on March 22, 1974, BBCCSD, the Big Bear Lake Sanitation District and the County entered into a joint exercise of powers agreement (the “Agreement”) creating the Big Bear Area Regional Wastewater Agency (“Agency”); and

2.2 WHEREAS, the Parties entered into a First Amendment to the Agreement dated April 28, 1975, for the purpose of deleting Section 12 of the Agreement; and

2.3 WHEREAS, the Parties entered into a Second Amendment to the Agreement dated January 15, 1979 (a) to clarify the manner in which the Agency’s Governing Board may take action, (b) to empower to Agency to borrow money and issue notes or grant anticipation notes as evidence of the indebtedness created thereby, and (c) provide that the powers of the

Agency shall be subject to the restrictions on the manner of exercising the powers of BBCCSD;  
and

2.4 WHEREAS, the Parties entered into a Third Amendment to the Agreement dated July 7, 1980, for the purpose of changing the limitation on the number of consecutive terms of the members of the Governing Board of the Agency; and

2.5 WHEREAS, the Parties entered into a Fourth Amendment to the Agreement dated July 19, 1982, for the purpose of substituting the City as a party to the Agreement in place of the Big Bear Lake Sanitation District as it was dissolved on December 1, 1980 upon the incorporation of the City, to provide for the appointment by the City of members to the Agency's Governing Board, and to empower the Agency's Governing Board to appoint one of its officers or employees to either or both of the position of Treasurer and Auditor; and

2.6 WHEREAS, the Parties entered into a Fifth Amendment to the Agreement dated January 10, 2012, for the purpose of clarifying the appointment procedures and terms of the members of the Governing Board; and

2.7 WHEREAS, the Parties now desire to amend the Agreement in order to extend the term of the Agreement.

**NOW, THEREFORE, the Parties agree as follows:**

**3. Terms and Conditions.**

3.1 Amendment of Section 2. Section 2 of the Agreement is hereby deleted and replaced with the following:

The term of this Agreement shall continue until terminated by the

Parties hereto by their mutual written consent.

3.2 Counterparts. This Sixth Amendment may be executed by the Parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

3.3 Effect Upon Agreement. Except as expressly amended by this Sixth Amendment, all terms, conditions, definitions and provisions of the Agreement amended by the First, Second, Third, Fourth, and Fifth Amendments, shall remain in full force and effect and shall govern the conduct of the Parties.

3.4 Authority to Enter into Agreement. BBCCSD, City, and County warrant that they have all requisite power and authority to execute this Sixth Amendment. Each person executing this Sixth Amendment on behalf of their Party warrants that he or she has the legal power, right, and authority to make this Sixth Amendment and bind his or her respective Party.

**[Signatures on following page]**



**SIGNATURE PAGE TO THE SIXTH AMENDMENT TO THE  
JOINT EXERCISE OF POWERS AGREEMENT**

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be executed and attested by their proper officers thereunto duly authorized as of the date first written above.

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

\_\_\_\_\_  
[INSERT NAME], President of the Board of Directors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
Secretary of the Board

\_\_\_\_\_  
General Counsel

BIG BEAR CITY COMMUNITY SERVICES DISTRICT

\_\_\_\_\_  
[INSERT NAME], President of the Board of Directors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
Secretary of the Board

\_\_\_\_\_  
General Counsel

CITY OF BIG BEAR LAKE

\_\_\_\_\_  
[INSERT NAME], City Manager, City of Big Bear Lake

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
City Attorney

COUNTY OF SAN BERNARDINO on behalf of San Bernardino County Service Area 53

\_\_\_\_\_  
[INSERT NAME], Chair of San Bernardino County Board of Supervisors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
[INSERT NAME]  
Clerk of the Board

\_\_\_\_\_  
County Counsel

## AGREEMENT AMENDING OPERATING AGREEMENTS NO. 1 AND NO. 2

### 1. Parties and Date.

This Agreement is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 201\_, by and between the Big Bear City Community Services District (“BBCCSD”), the City of Big Bear Lake (“City”), and the County of San Bernardino (“County”) on behalf of San Bernardino County Service Area 53. BBCCSD, the City, and the County are sometimes referred to herein individually as “Party” or collectively as the “Parties.”

### 2. Recitals.

2.1 WHEREAS, the Big Bear Area Regional Wastewater Agency (“Agency”) is a joint exercise of powers agency operating under Chapter 5, Division 7, Title 1 of the Government Code (Section 6500 et seq.), and was created by a joint exercise of powers agreement dated March 22, 1974, between BBCCSD, the Big Bear Lake Sanitation District, and the County; and

2.2 WHEREAS, on May 3, 1977, the Parties entered into three operating agreements with respect to the ownership, use, management, operation, and maintenance of a regional sewerage system for the Big Bear Valley Area, said agreements being captioned as follows:

#### “OPERATING AGREEMENT NO. 1

Agreement Between Big Bear Area Regional Wastewater Agency, Big Bear Lake Sanitation District, Big Bear City Community Services District and County of San Bernardino on Behalf of Improvement Zone ‘B’ of San Bernardino County Service Area 53 Regarding Capacity In and Operation and Maintenance of Regional Sewerage System for the Big Valley Area”

#### “OPERATING AGREEMENT NO. 2

Agreement Between Big Bear Area Regional Wastewater Agency, Big Bear Lake Sanitation District, Big Bear City Community Services District and County of San Bernardino on Behalf of Improvement Zone 'B' of San Bernardino County Service Area 53 Regarding Sale and Transfer of Facilities by BBLSD and BBCCSD to Agency, Right of Agency to Purchase Surplus Real Property of BBLSD and BBCCSD, and Operation of Facilities, and Capacity and Connection Rights of BBLSD, BBCCSD and County in and to Certain Facilities”

“OPERATING AGREEMENT No. 3

Agreement Between Big Bear Area Regional Wastewater Agency, Big Bear Lake Sanitation District, Big Bear City Community Services District and County of San Bernardino on Behalf of Improvement Zone 'B' of San Bernardino County Service Area 53 Regarding Management and Operation of Regional Sewerage Facilities and Administration of Related Programs”

2.3 WHEREAS, the Parties entered into an agreement amending Operating Agreement No. 2 on September 20, 1977, which, among other things, supplemented and amended the provisions governing the sale and transfer of certain real property and facilities by BBLSD and BBCCSD to BBARWA; and

2.4 WHEREAS, the Parties entered into an agreement amending Operating Agreement No. 1 on July 7, 1980, for the purpose of altering the County's obligation to pay to BBARWA an In-Lieu-Of Total Annual Charge Payment for each fiscal year; and

2.5 WHEREAS, the Parties entered into an agreement on July 19, 1982, which, among other things, amended Operating Agreement No. 1 and Operating Agreement No. 2 to name the City as a party thereto, and to bind the City to perform said agreements on behalf of the Big Bear Lake Sanitation District as it was dissolved on December 1, 1980 upon the incorporation of the City; and

2.6 WHEREAS, the Parties entered into an agreement on October 15, 1984, which, among other things, supplemented Operating Agreement No. 1 and Operating Agreement No. 2 to provide for the acquisition, construction, and installation of certain improvements to the regional sewerage system; and

2.7 WHEREAS, on June 26, 1996, the Parties entered into an agreement terminating Operating Agreement No. 3; and

2.8 WHEREAS, the Parties now desire to amend Operating Agreement No. 1 and No. 2 in order to extend the term of each Agreement and to coordinate the extension of the term with the extension of the term of the Sixth Amendment to the Joint Exercise of Powers Agreement Between Big Bear City Community Services District, City of Big Bear Lake and San Bernardino County Creating the Big Bear Area Regional Wastewater Agency (“Amendment”).

**NOW, THEREFORE, the Parties agree as follows:**

**3. Terms and Conditions.**

3.1 Amendment of Section 2.01. Section 2.01 of Operating Agreement No. 1 and Operating Agreement No. 2 are hereby deleted and replaced as follows:

The term of this Agreement shall continue until terminated by the Parties hereto by their mutual written consent.

3.2 Counterparts. This Amendment may be executed by the Parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

3.3 Effect Upon Agreement. Except as expressly amended by this Amendment, all terms, conditions, definitions and provisions of each Agreement shall remain in full force and effect and shall govern the conduct of the Parties.

3.4 Authority to Enter into Agreement. BBCCSD, City, and County warrant that they have all requisite power and authority to execute this Amendment. Each person executing this Amendment on behalf of their Party warrants that he or she has the legal power, right, and authority to make this Amendment and bind his or her respective Party.

**[Signatures on following page]**

**SIGNATURE PAGE TO THE AGREEMENT AMENDING  
OPERATING AGREEMENT NO. 1 AND NO. 2**

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be executed and attested by their proper officers thereunto duly authorized as of the date first written above.

BIG BEAR AREA REGIONAL WASTEWATER AGENCY

\_\_\_\_\_  
[INSERT NAME], President of the Board of Directors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
Secretary of the Board

\_\_\_\_\_  
General Counsel

BIG BEAR CITY COMMUNITY SERVICES DISTRICT

\_\_\_\_\_  
[INSERT NAME], President of the Board of Directors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
Secretary of the Board

\_\_\_\_\_  
General Counsel

CITY OF BIG BEAR LAKE

\_\_\_\_\_  
[INSERT NAME], City Manager, City of Big Bear Lake

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
City Attorney

COUNTY OF SAN BERNARDINO on behalf of San Bernardino County Service Area 53

\_\_\_\_\_  
[INSERT NAME]  
Chair of San Bernardino County Board of Supervisors

ATTEST: *Approved as to Content and Form:*

\_\_\_\_\_  
[INSERT NAME]  
Clerk of the Board

\_\_\_\_\_  
County Counsel